

DOS III EXEC MODULES
(REV A)

BINARY TAPE	24307-60003
SOURCE TAPES	24307-80016
	24307-80017
	24307-80018
	24307-80019
	24307-80020
	24307-80021
SOURCE LISTING	24307-90003

PAGE 0001

0001

ASMB,L,X,C,N,R,B

DISC TRACKS STATUS MODULE (SEX01

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      DISC TRACKS STATUS MODULE ($EX01
0002 00000      NAM $EX01,1
0003          ENT $EX01
0004          EXT $RQER,$ADDR
0005          EXT $IRI
0006*      $EX01 ROUTINE CHECKS DISC WORK TRACK STATUS OF N CONSECUTIVE
0007*      WORK TRACKS STARTING FROM SPECIFIED TRACK #. IF INITIAL TRACK
0008*      AND N CONSECUTIVE TRACKS ARE OKAY, THEN INITIAL TRACK # IS
0009*      RETURNED. IF N CONSECUTIVE TRACKS FROM INITIAL TRACK ARE NOT OKAY
0010*      THEN A SEARCH IS MADE FOR N CONSECUTIVE TRACKS STARTING FROM THE
0011*      FIRST GOOD TRACK AFTER THE LAST BAD TRACK AND THE SEARCH IS
0012*      REPEATED. IF TRACKS CANNOT BE FOUND, THEN USER START TRACK IS
0013*      SET TO ZERO.
0014*
0015*      CALLING SEQUENCE:
0016*
0017*      JSR EXEC
0018*      DEF *+5      RETURN ADDRESS
0019*      DEF RCODE    RCODE = 16
0020*      DEF NTRAK    NTRAK =# OF CONSECUTIVE TRACKS
0021*      DEF TRACK    TRACK = STARTING TRACK #
0022*      DEF STRAK    STRAK = RESULTING START TRACK OR 0 IF NONE
0023*      ---
0024*
0025 00000 060224 $EX01 LDA RQCNT,      CHECK FOR CORRECT # OF PARAMETER
0026 00001 040047      ADA #4
0027 00002 002002      SZA
0028 00003 026060R     JMP RQER      NOT CORRECT # OF PARAMETERS
0029 00004 060231      LDA RQP4      CHECK ADDRESS OF STRAK LOCATION
0030 00005 016002X     JSR $ADDR     CALL ADDRESS CHECK ROUTINE
0031 00006 100226      LDA RQP1,I
0032 00007 002020      SSA
0033 00010 026036R     JMP EX005
0034 00011 060160      LDA SYNTS     CHECK START TRACK# FOR WORK AREA
0035 00012 040074      ADA .377
0036 00013 001727      ALF,ALF
0037 00014 010074      AND .377
0038 00015 070001      STA B
0039 00016 007004      CMB,INB
0040 00017 144230      ADB RQP3,I
0041 00020 006021      SSB,RSS      TRACK IN WORK AREA
0042 00021 026024R     JMP *+3      YES
0043 00022 006400     EX002 CLB      NO: SET STRAK = 0
0044 00023 026050R     JMP EX040+1
0045 00024 006400      CLB
0046 00025 060154      LDA DISCO     CHECK IF END TRACK IN WORK AREA
0047 00026 010074      AND .377
0048 00027 003000      CMA
0049 00030 140227      ADA RQP2,I
0050 00031 140230      ADA RQP3,I
0051 00032 002073      SZA,RSS
0052 00033 026036R     JMP EX005
0053 00034 002021      SSA,RSS
0054 00035 026050R     JMP EX040+1    BEYOND LAST WORK TRACK
0055*
0056 00036 164230     EX005 LDB RQP3,I  STARTING TRACK #

```

0057	00037	144227	ADB RQP2,I	# OF CONSECUTIVE TRACKS
0058	00040	007004	CMB,INR	
0059	00041	000154	LDA DISCO	LOWER 8 BITS * # OF TRACKS
0060	00042	010074	AND .377	
0061	00043	002004	INA	
0062	00044	040001	ADA B	MAX - (START TRK + # CNSEC)
0063	00045	002020	SSA	OK IF POS
0064	00046	026022R	JMP EXM02	NOT ENOUGH ROOM
0065	00047	164230	EXM41 LDB RQP3,I	ORIGINAL START TRACK
0066	00050	174231	STB RQP4,I	STORE STRAK AND RETURN
0067	00051	060245	LDA EXMOD	
0068	00052	050052	CPA ..-1	
0069	00053	003004	CMA,INA	
0070	00054	070245	STA EXMOD	
0071	00055	060225	LDA RQRTN	SET UP TRANSFER ADDR FOR SIRT
0072	00056	070137	STA XIRT	
0073	00057	026003X	JMP SIRT	
0074	00060	060245	RQER LDA EXMOD	
0075	00061	050052	CPA ..-1	
0076	00062	003004	CMA,INA	
0077	00063	070245	STA EXMOD	
0078	00064	026001X	JMP RQER	TRANSFER TO REQUEST ERROR ROUTIN
0079	00000		A EQU 0	
0080	00001		B EQU 1	
0081	00053		.. EQU 53B	
0082	00047		N4 EQU ..-4	
0083	00074		.377 EQU ..+17	
0084	00100		. EQU 100B	
0085	00126		RDNBF EQU ..+26B	
0086	00137		XIRT EQU RDNBF+9	
0087	00154		DISCO EQU ..+44	
0088	00160		SYNTS EQU ..+48	
0089	00224		RQCNT EQU ..+84	
0090	00225		RQRTN EQU ..+85	
0091	00226		RQP1 EQU ..+86	
0092	00227		RQP2 EQU ..+87	
0093	00230		RQP3 EQU ..+88	
0094	00231		RQP4 EQU ..+89	
0095	00245		EXMOD EQU ..+101	
0096			END	

** NO ERRORS*

ADDR	00004/02	00030/02						
EX01	00025/02	00003/02						
ERT	00005/02	00073/02						
ERGER	00004/02	00078/02						
.	00084/02	00085/02	00087/02	00088/02	00089/02	00090/02	00091/02	
	00092/02	00093/02	00094/02	00095/02				
..	00081/02	00068/02	00075/02	00082/02	00083/02			
.377	00083/02	00035/02	00037/02	00047/02	00060/02			
PA	00079/02							
P	00080/02	00038/02	00062/02					
DISCO	00067/02	00046/02	00059/02					
EX002	00043/02	00064/02						
EX005	00056/02	00033/02	00052/02					
EX040	00065/02	00044/02	00054/02					
EXMOD	00095/02	00067/02	00070/02	00074/02	00077/02			
N4	00082/02	00026/02						
RUNBF	00085/02	00086/02						
RQCNT	00089/02	00025/02						
RDER	00074/02	00028/02						
RQP1	00091/02	00031/02						
RQP2	00092/02	00049/02	00057/02					
RQP3	00093/02	00040/02	00050/02	00056/02	00065/02			
RQP4	00094/02	00029/02	00066/02					
RQRTN	00090/02	00071/02						
SYNTS	00086/02	00034/02						
XIRT	00086/02	00072/02						

PAGE 0001

0001

ASMB,L,C,X,N,R,B

DISC WORK LIMITS MODULE (SEX02)

** NO ERRORS*

```

0001          ASMB,L,C,X,N,R,B          DISC WORK LIMITS MODULE ($EX02)
0002 000000          NAM $EX02,1
0003          ENT $EX02
0004          EXT $RQER,$ADDR
0005          EXT $IRT
0006*          $EX02 ROUTINE PROVIDES THE USER WITH DISC WORK AREA TRACK
0007*          ADDRESS LIMITS AND THE # OF SECTORS PER DISC TRACK.
0008*
0009*          CALLING SEQUENCE:
0010*
0011*          JSB EXEC
0012*          DEF **5(OR 6)
0013*          DEF RCODE          RCODE = 17
0014*          DEF FTRAK          FTRAK = ADDR OF WORD TO STORE 1ST WORK TRK
0015*          DEF LTRAK          LTRAK = ADDR OF WORD TO STORE LAST WORK TRK
0016*          DEF SIZE          SIZE = # SECTOR/TRACK WORD ADDR.
0017*          DEF DISC(OPTIONAL) DISC = 0 FOR SYSTEM DISC, NON-0 FOR US
0018*                          DEFAULT IS SYSTEM.
0019*
0020 000000 060224 $EX02 LDA RQCNT          CHECK PARAMETER COUNT
0021 000001 050057          CPA ..+4          4 PARAMETERS?
0022 000002 026010R          JMP CHK          YES, OK.
0023 000003 050060          CPA ..+5          5 PARAMETERS?
0024 000004 002001          RSS          YES, OK
0025 000005 026065R          JMP RQER          TOO FEW OR TOO MANY PARAMETERS.
0026 000006 060232          LDA RQP5          CHECK ADDR OF 5TH PARAM
0027 000007 016002X          JSB $ADDR
0028 000010 060227 CHK          LDA RQP2
0029 000011 016002X          JSB $ADDR          PARAMETERS
0030 000012 060230          LDA RQP3
0031 000013 016002X          JSB $ADDR
0032 000014 060231          LDA RQP4
0033 000015 016002X          JSB $ADDR
0034 000016 064224          LDB RQCNT
0035 000017 054057          CPB ..+4          DEFAULT AS SYSTEM DISC?
0036 000020 026024R          JMP SYS          YES.
0037 000021 160232          LDA RQP5,I          NO. CHECK 5TH PARAM
0038 000022 002002          SZA          0 MEANS SYSTEM DISC
0039 000023 026057R          JMP USER
0040 000024 060160 SYS          LDA SYNTS          GET START OF WORK AREA TRACK
0041 000025 040074          ADA .377
0042 000026 001727          ALF,ALF
0043 000027 010074          AND .377
0044 000030 170227          STA RQP2,I
0045 000031 060102          LDA JBINC
0046 000032 002003          SZA,RSS
0047 000033 026043R          JMP EX010
0048 000034 010074          AND .377
0049 000035 070001          STA B
0050 000036 020102          XOR JBINC
0051 000037 001727          ALF,ALF
0052 000040 010074          AND .377
0053 000041 040052          ADA N1
0054 000042 026045R          JMP EX020
0055 000043 060154 EX010 LDA DISCO          STORE END OF WORK AREA TRACK #
0056 000044 010074          AND .377

```

```

0057 00045 170230 EX020 STA RQP3,I
0058 00046 060116 LDA SECTR STORE # OF SECTORS PER TRACK
0059 00047 170231 STA RQP4,I
0060 00050 060245 LDA EXMOD
0061 00051 050051 CPA ..-2
0062 00052 003004 CMA,INA
0063 00053 070245 STA EXMOD
0064 00054 060225 LDA RQRTN SET UP TRANSFER ADDR FOR SIRT
0065 00055 070137 STA XIRT
0066 00056 026003X JNP $IRT
0067 00057 060157 USER LOA UDNTS GET USER DISC NEXT TR/SECTR
0068 00060 040074 ADA .377
0069 00061 001727 ALF,ALF
0070 00062 010074 AND .377
0071 00063 170227 STA RQP2,I
0072 00064 026043R JMP EX010
0073 00065 002400 RQER CLA FREE MODULE AREA
0074 00066 070245 STA EXMOD
0075 00067 026001X JMP $RQER
0076*
0077 00000 A EQU 0
0078 00001 B EQU 1
0079 00053 .. EQU 538
0080 00052 N1 EQU ..-1
0081 00074 .377 EQU ..+17
0082 00100 . EQU 1005
0083 00102 JBINC EQU .+2
0084 00116 SECTR EQU .+14
0085 00126 RUNBF EQU .+26B
0086 00137 XIRT EQU RUNBF+9
0087 00154 DISCO EQU .+44
0088 00157 UDNTS EQU .+47
0089 00160 SYNTS EQU .+48
0090 00224 RQCNT EQU .+84
0091 00225 RQRTN EQU .+85
0092 00227 RQP2 EQU .+87
0093 00230 RQP3 EQU .+88
0094 00231 RQP4 EQU .+89
0095 00232 RQP5 EQU .+90
0096 00245 EXMOD EQU .+101
0097 END
** NO ERRORS*

```

\$ADDR	00044	00027	00029	00031	00033		
SEX02	00020	00003					
\$IRT	00005	00066					
\$RQER	00004	00075					
.	00082 00090	00083 00091	00084 00092	00085 00093	00087 00094	00088 00095	00089 00096
..	00079	00021	00023	00035	00061	00080	00081
.377	00081 00070	00041	00043	00048	00052	00056	00068
PA	00077						
B	00078	00049					
CHK	00028	00022					
DISCO	00087	00055					
EX010	00055	00047	00072				
EX020	00057	00054					
EXMOD	00096	00060	00063	00074			
JBINC	00083	00045	00050				
N1	00060	00053					
RONBF	00085	00086					
RQCNT	00090	00020	00034				
RQER	00073	00025					
RQP2	00092	00028	00044	00071			
RQP3	00093	00030	00057				
RQP4	00094	00032	00059				
RQP5	00095	00026	00037				
RQRTN	00091	00064					
SECTR	00084	00058					
SYNTS	00089	00040					
SYS	00040	00036					

UDNTS 00088 00067

USER 00067 00039

XIRT 00086 00065

PAGE 0001

0001

ASMB,L,X,C,N,R,B

PROGRAM COMPLETION MODULE (SEX

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B          PROGRAM COMPLETION MODULE ($EX
0002 000000          NAM $EX03,1
0003          ENT $EX03
0004          EXT $IDL1,$MOVE,$ABRT,$TYPE
0005          EXT $CLER
0006*      $EX03 ROUTINE IS THE EXECUTING PROGRAM COMPLETION REQUEST
0007*      PROCESSOR.
0008*      IF PROGRAM IS 'RUNNING' (EXECUTION CLOCK -CLEX- IS POSITIVE),
0009*      THEN IT IS TURNED OFF (SET BIT 15 OF CLEX). A CHECK IS MADE TO
0010*      SEE IF POST MORTEM DUMP IS REQUESTED, AND DUMP MODULE CALLED IN.
0011*      THE EXECUTING PROGRAM ID SEGMENT -EXPG- IS CLEARED AND INPUT
0012*      IS REQUESTED FROM THE BATCH INPUT DEVICE.
0013*
0014*      CALLING SEQUENCE:
0015*
0016*          JSB EXEC
0017*          DEF **2          RETURN ADDRESS
0018*          DEF RCODE          RCODE = 6
0019*          ---
0020*
0021 00000 060106 $EX03 LDA CLEX          CHECK IF EXECUTION CLOCK ON
0022 00001 032044R      IOR SIGN          YES, SO TURN OF EXEC CLOCK
0023 00002 070106      STA CLEX
0024*
0025 00003 060113      LDA DUMPS          CHECK IF POST MORTEM DUMP REQUES
0026 00004 002011      SLA,RSS
0027 00005 026016R      JMP EXPGC          NO, SO GO CLEAR EXPG
0028 00006 060245      LDA EXMOD
0029 00007 050050      CPA ..-3
0030 00010 003004      CMA,INA
0031 00011 070245      STA EXMOD          POST MORTEM DUMP MODULE
0032 00012 002400      CLA          SET EX MOD AREA AVAILABLE FOR
0033 00013 070332      STA CHARC
0034 00014 002404      CLA,INA          SET BIT 0 FOR PDUMP
0035 00015 026003X      JMP $ABRT
0036 00016 060323 EXPGC LDA EFMP          EFMP ACTIVE?
0037 00017 002002      SZA          -YES, LET IT CLEAN UP
0038 00020 114000      JSB A,I
0039 00021 016005X      JSB $CLER
0040 00022 070273      STA $IDCD
0041 00023 066045R      LDB N11
0042 00024 016002X      JSB $MOVE
0043 00025 000141      DEF EXPG
0044 00026 060245      LDA EXMOD
0045 00027 050050      CPA ..-3
0046 00030 003004      CMA,INA
0047 00031 070245      STA EXMOD
0048 00032 006400      CLB
0049 00033 060262      LDA SWAP
0050 00034 074262      STB SWAP
0051 00035 074113      STB DUMPS          CLEAR PROGRAM DUMP FLAG
0052 00036 002021      SSA,RSS
0053 00037 026001X      JMP $IDL1          ;EJOB STATEMENT
0054 00040 002404      CLA,INA
0055 00041 070111      STA BATCH
0056 00042 007400      CCB

```



```

0057 00043 026004X      JMP $TYPE
0058*
0059 00044 100000 SIGN OCT 100000
0060 00045 177765 N11 DEC -11
0061*
0062 00000 A EQU 0
0063 00001 B EQU 1
0064 00053 .. EQU 53B
0065 00072 M77 EQU ..+15
0066 00100 . EQU 100B
0067 00106 CLEX EQU .+6
0068 00111 BATCH EQU .+9
0069 00113 DUMPS EQU .+11
0070 00141 EXPG EQU .+33
0071 00245 EXMOD EQU .+101
0072 00262 SWAP EQU .+114
0073 00273 $IOCD EQU .+123
0074 00323 EFMP EQU .+147
0075 00332 CHARC EQU .+154
0076
** NO ERRORS*

```

\$ABRT	00004	00035					
\$CLER	00005	00039					
\$EX03	00021	00003					
\$IDCD	00073	00040					
\$IDL1	00004	00053					
\$MOVE	00004	00042					
\$TYPE	00004	00057					
.	00066 00073	00067 00074	00068 00075	00069	00070	00071	00072
..	00064	00029	00045	00065			
A	00062	00038					
*B	00063						
BATCH	00068	00055					
CHARC	00075	00033					
CLEX	00067	00021	00023				
DUMPS	00069	00025	00051				
EFMP	00074	00036					
EXMOD	00071	00028	00031	00044	00047		
EXPG	00070	00043					
EXPGC	00036	00027					
*M77	00065						
N11	00060	00041					
SIGN	00059	00022					
SWAP	00072	00049	00050				

PAGE 0001

0001

ASMB,L,X,C,N,R,B

PROGRAM SUSPENSION MODULE (\$EX04

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      PROGRAM SUSPENSION MODULE ($EX04
0002 000000          NAM $EX04,1
0003          ENT $EX04
0004          EXT $TYPE,$SYIO,$WAIT
0005          EXT SETEQ,$MOVE,$ABRT,$IDL1
0006          EXT CNDEC,CNOCT
0007          EXT $IRT
0008*
0009*          $EX04 ROUTINE PROCESSES REQUEST FOR PROGRAM SUSPENSION.
0010*          THIS ROUTINE SAVES POINT OF CONTINUATION ADDRESS, OUTPUTS
0011*          -XXXXX SUSP- MESSAGE ON SYSTEM TELETYPE, SETS $IDL1 TO ACCEPT
0012*          -GO- INPUT ONLY, AND THEN REQUESTS INPUT FROM SYSTEM TELETYPE.
0013*
0014*          CALLING SEQUENCE:
0015*
0016*          JSB EXEC
0017*          DEF **2          RETURN POINT
0018*          DEF RCODE        RCODE = 7
0019*          ---
0020*
0021 00000 054062  $EX04 CPB  ..+7          CALL FROM DISCM?
0022 00001 026051R      JMP  EX04          YES
0023 00002 056103R      CPB  .18          CODE FROM EX18
0024 00003 026206R      JMP  EX18X
0025 00004 054046      CPB  ..-5          ENTRY FROM $EX05
0026 00005 026135R      JMP  EX05X          -YES
0027*
0028 00006 054057      CPB  ..+4          USER DISC I/O ERROR?
0029 00007 026025R      JMP  IOERR          -YES
0030 00010 076076R      STB  COD17
0031 00011 004010      SLB                   GEN. CODE ERROR?
0032 00012 016266R      JSB  GNERR          -YES
0033 00013 062076R      LDA  COD17
0034 00014 001110      ARS,SLA
0035 00015 026032R      JMP  UDERR          -YES
0036*
0037 00016 064245  EXIT  LDB  EXMOD
0038 00017 054047      CPB  ..-4
0039 00020 007004      CMB,INB
0040 00021 074245      STB  EXMOD
0041 00022 064225      LDB  RQRTN  SET RETURN ADDR FOR $IRT
0042 00023 074137      STB  XIRT
0043 00024 026012X      JMP  $IRT
0044*
0045 00025 060275  IOERR LDA  $MDBF+1
0046 00026 072127R      STA  IOMSG+5  SET PE/NR CODE
0047 00027 062122R      LDA  IOMSG
0048 00030 066104R      LDB  N20
0049 00031 016353R      JSB  ERMMSG  PRINT I/O ERR MSG
0050*
0051 00032 060262  UDERR LDA  SWAP
0052 00033 002002      SZA
0053 00034 026016R      JMP  EXIT
0054 00035 016342R      JSB  UDSUS
0055 00036 062352R      LDA  ERSUS
0056 00037 016011X      JSB  CNOCT

```

0057	00040	072121R		STA	UDMSG+5	
0058	00041	160001		LDA	B,I	
0059	00042	072117R		STA	UDMSG+3	
0060	00043	006004		INB		
0061	00044	160001		LDA	B,I	
0062	00045	072120R		STA	UDMSG+4	
0063	00046	062114R		LDA	UDMSG	
0064	00047	064041		LDB	..-10	
0065	00050	016353R		JSB	ERMSG	PRINT 'UD NNNNNN' (SUSP. PNT)
0066*						
0067	00051	060225	EX04	LDA	RQRTN	SAVE POINT OF SUSPENSION
0068	00052	070272		STA	%GOPT	CONTINUATION ADDRESS
0069	00053	060141		LDA	EXPG	SETUP -XXXXXX SUSP- MESSAGE
0070	00054	072107R		STA	BUF+1	
0071	00055	060142		LDA	EXPG+1	
0072	00056	072110R		STA	BUF+2	
0073	00057	060143		LDA	EXPG+2	
0074	00060	010075		AND	.1774	
0075	00061	032077R		IOR	.40	
0076	00062	072111R		STA	BUF+3	
0077	00063	062106R		LDA	BUF	
0078	00064	064041		LDB	..-10	
0079	00065	016353R		JSB	ERMSG	
0080	00066	062105R	EXG0	LDA	G0CD	SETUP TO ACCEPT %G0 CODE ONLY
0081	00067	070273		STA	%IDCD	
0082	00070	060245		LDA	EXMOD	
0083	00071	050247		CPA	..-4	
0084	00072	003004		CMA	INA	
0085	00073	070245		STA	EXMOD	
0086	00074	007400		CCB		
0087	00075	026001X		JMP	%TYPE	
0088*						
0089	00076	000000	CO017	NOP		
0090	00077	000040	.40	OCT	40	
0091	00100	040000	B40K	OCT	40000	
0092	00101	037777	MASK7	OCT	37777	
0093	00102	000031	DISC	OCT	31	
0094	00103	000022	.18	DEC	18	
0095	00104	177754	N20	DEC	-20	
0096	00105	043517	G0CD	ASC	1,G0	
0097*						
0098	00106	000107R	BUF	DEF	++1	
0099	00107	020040		ASC	3,	
	00110	020040				
	00111	020040				
0100	00112	051525		ASC	2,SUSP	
	00113	051520				
0101	00114	000115R	UDMSG	DEF	++1	
0102	00115	052504		ASC	5,UD	
	00116	020040				
	00117	020040				
	00120	020040				
	00121	020040				
0103	00122	000123R	IOMSG	DEF	++1	
0104	00123	044457		ASC	10,I/O ERR	USER DISC
	00124	047440				

00125	042522			
00126	051040			
00127	020040			
00130	020126			
00131	051505			
00132	051040			
00133	042111			
00134	051503			
0105*				
0106	00135 060227	EX05X	LDA RQP2	
0107	00136 064050		LDB ..-3	
0108	00137 016005X		JSB \$MOVE	MOVE SEG. NAME TO MSG BUFFER
0109	00140 000177R		DEF SEGMS	
0110	00141 062201R		LDA SEGMS+2	
0111	00142 010075		AND .1774	
0112	00143 032077R		IOR .40	
0113	00144 072201R		STA SEGMS+2	
0114	00145 062176R		LDA SEGMS-1	
0115	00146 066174R		LDB N14	
0116	00147 016353R		JSB ERMSG	PRINT 'XXXXX MISSING' MESSAGE
0117	00150 070141		STA EXPG	
0118	00151 070113		STA DUMPS	CLEAR DUMP FLAG
0119	00152 064245		LDB EXMOD	
0120	00153 054047		CPB ..-4	
0121	00154 007004		CMB, INB	
0122	00155 074245		STB EXMOD	RELEASE MODULE OVERLAY AREA
0123*				
0124	00156 060106		LDA CLEX	
0125	00157 032173R		IOR SIGN	
0126	00160 070106		STA CLEX	TURN OFF EXECUTING PROG. CLOCK
0127	00161 062173R		LDA SIGN	
0128	00162 064113		LDB DUMPS	
0129	00163 006020		SSB	ABORT DUMP REQUESTED?
0130	00164 026006X		JMP \$ABRT	-YES
0131	00165 062175R		LDA JO	ASCII 'JO'
0132	00166 064111		LDB BATCH	
0133	00167 054054		CPB ..+1	BATCH = SYS. TTY?
0134	00170 002400		CLA	-YES, DON'T LOOK FOR 'JO'
0135	00171 070273		STA \$IDCD	
0136	00172 026007X		JMP \$IDL1	GO INPUT FROM BATCH DEVICE
0137*				
0138	00173 100000	SIGN	OCT 100000	
0139	00174 177762	N14	DEC -14	
0140	00175 045117	JO	ASC 1,JO	
0141	00176 000177R		DEF **+1	
0142	00177 020040	SEGMS	ASC 7,	MISSING
	00200 020040			
	00201 020040			
	00202 046511			
	00203 051523			
	00204 044516			
	00205 043440			
0143*				
0144	00206 060274	EX18X	LDA \$MDBF	SET UP EQP TABLE
0145	00207 016004X		JSB \$ETEQ	
0146	00210 060314		LDA VADR	EQUIPMENT MALFUNCTION OR NOT READ

0147	00211	070272		STA \$GOPT	SAVE SUSPENSION ADDRESS
0148	00212	160206		LDA EQT4,I	
0149	00213	001727		ALF,ALF	
0150	00214	010072		AND M77	
0151	00215	052102R		CPA DISC	
0152	00216	026262R		JMP X180	
0153	00217	160206		LDA EQT4,I	
0154	00220	001266		RAL,CLE,ELA	
0155	00221	001323		RAR,RAR	
0156	00222	012101R		AND MASK7	
0157	00223	032100R		IOR B40K	
0158	00224	170206		STA EQT4,I	
0159	00225	012077R		AND ,40	
0160	00226	002042		SEZ,SZA	CLUGE MESSG SKIP FOR ASMB,XREF
0161	00227	026244R		JMP X180	
0162	00230	002404		CLA,INA	
0163	00231	064117		LDB EQTAB	
0164	00232	054203	ILOOP	CPB EQT1	
0165	00233	026237R		JMP IO,2	
0166	00234	002004		INA	
0167	00235	044066		ADB ,17	
0168	00236	026232R		JMP ILOOP	
0169	00237	016010X	IO,2	JSB CNDEC	
0170	00240	072260R		STA NREDY+9	
0171	00241	062247R		LDA NREDY	
0172	00242	066104R	X18M	LDB N20	
0173	00243	016353R		JSB ERM8G	
0174	00244	060274	X18Q	LDA \$MDBF	
0175	00245	016004X		JSB SETEQ	
0176	00246	026066R		JMP EXGO	
0177	00247	000250R	NREDY	DEF ++1	
0178	00250	044457		ASC 10,I/O ERR NR EQT#	
	00251	047440			
	00252	042522			
	00253	051040			
	00254	047122			
	00255	020105			
	00256	050524			
	00257	021440			
	00260	020040			
	00261	020040			
0179*					
0180	00262	062254R	X18D	LDA NREDY+5	
0181	00263	072127R		STA IOMSG+5	
0182	00264	062122R		LDA IOMSG	
0183	00265	026242R		JMP X18M	
0184*					
0185	00266	000000	GNERR	NOP	
0186	00267	060274		LDA \$MDBF	
0187	00270	016010X		JSB CNDEC	-NO, CONVERT TO DECIMAL
0188	00271	072334R		STA \$GASC+1	
0189	00272	006004		INB	
0190	00273	160001		LDA B,I	
0191	00274	072333R		STA \$GASC	
0192	00275	060275		LDA \$MDBF+1	
0193	00276	016010X		JSB CNDEC	

```

0194 00277 072321R      STA DGASC+1
0195 00300 006004      INB
0196 00301 160001      LDA B,I
0197 00302 072320R      STA DGASC
0198 00303 062310R      LDA DEFGN
0199 00304 066307R      LDB N50
0200 00305 016353R      JSB ERM5G
0201 00306 126266R      JMP GNERR,I
0202 00307 177716      N50 DEC -50
0203 00310 000311R      DEFGN DEF ++1
0204 00311 042111      ASC 7,DISC GEN CODE
      00312 051503
      00313 020107
      00314 042516
      00315 020103
      00316 047504
      00317 042440
0205 00320 000000      DGASC BSS 2
0206 00322 020116      ASC 9, NOT SYS GEN CODE
      00323 047524
      00324 020123
      00325 054523
      00326 020107
      00327 042516
      00330 020103
      00331 047504
      00332 042440
0207 00333 000000      SGASC BSS 2
0208 00335 020105      ASC 5, ERR POSS
      00336 051122
      00337 020120
      00340 047523
      00341 051440
0209*
0210 00342 000000      UDSUS NOP
0211 00343 060224      LDA RQCNT
0212 00344 002004      INA
0213 00345 003000      CMA
0214 00346 040225      ADA RQRTN
0215 00347 070225      STA RQRTN
0216 00350 072352R      STA ERSUS
0217 00351 126342R      JMP UDSUS,I
0218 00352 000000      ERSUS NOP
0219*
0220 00353 000000      ERM5G NOP
0221 00354 072362R      STA MSGAD
0222 00355 076363R      STB MSGLN
0223 00356 034261      ISZ OPFLG
0224 00357 016002X      JSB $SYIO
0225 00360 000002      DEC 2
0226 00361 000001      DEC 1
0227 00362 000000      MSGAD NOP
0228 00363 000000      MSGLN NOP
0229 00364 000366R      DEF ++2
0230 00365 026003X      JMP $WAIT
0231 00366 002400      CLA

```


0232	00367	070261	STA	OPFLG
0233	00370	126353R	JMP	ERMSG,I
0234*				
0235	00000	A	EQU	0
0236	00001	B	EQU	1
0237	00053	..	EQU	53B
0238	00066	.17	EQU	..+11
0239	00072	M77	EQU	..+15
0240	00076	.1774	EQU	..+18
0241	00100	.	EQU	100B
0242	00106	CLEX	EQU	..+6
0243	00111	BATCH	EQU	..+9
0244	00113	DUMPS	EQU	..+11
0245	00117	EQTAB	EQU	..+15
0246	00126	RONBF	EQU	..+26B
0247	00137	XIRT	EQU	RONBF+9
0248	00141	EXPG	EQU	..+33
0249	00203	EQT1	EQU	..+67
0250	00206	EQT4	EQU	..+70
0251	00224	RQCNT	EQU	..+84
0252	00225	RQRTN	EQU	..+85
0253	00227	RQP2	EQU	..+87
0254	00245	EXMOD	EQU	..+101
0255	00261	OPFLG	EQU	..+113
0256	00262	SWAP	EQU	..+114
0257	00272	\$GOPT	EQU	..+122
0258	00273	\$IDCD	EQU	..+123
0259	00274	\$MDBF	EQU	..+124
0260	00314	VADR	EQU	..+140
0261			END	

** NO ERRORS*

\$ABRT	00005	00130					
\$EX04	00021	00003					
\$GOPT	00257	00068	00147				
\$IDCD	00258	00081	00135				
\$IDL1	00005	00136					
\$IRT	00007	00043					
\$MDBF	00259	00045	00144	00174	00186	00192	
\$MOVE	00005	00108					
\$SYIO	00004	00224					
\$TYPE	00004	00087					
\$WAIT	00004	00230					
.	00241	00242	00243	00244	00245	00246	00248
	00249	00250	00251	00252	00253	00254	00255
	00256	00257	00258	00259	00260		
..	00237	00021	00025	00028	00038	00064	00078
	00083	00107	00120	00133	00238	00239	00240
.17	00238	00167					
.1774	00240	00074	00111				
.18	00094	00023					
.40	00090	00075	00112	00159			
0A	00235						
B	00236	00058	00061	00190	00196		
B40K	00091	00157					
BATCH	00243	00132					
BUF	00098	00070	00072	00076	00077		
CLEX	00242	00124	00126				
CNDEC	00006	00169	00187	00193			
CNOCT	00006	00056					
COD17	00089	00030	00033				

DEFGN	00203	00198					
DGASC	00205	00194	00197				
DISC	00093	00151					
DUMPS	00244	00118	00128				
EQT1	00249	00164					
EQT4	00250	00148	00153	00158			
EQTAB	00245	00163					
ERMSG	00220 00233	00049	00065	00079	00116	00173	00200
ERSUS	00218	00055	00216				
EX04	00067	00022					
EX05X	00106	00026					
EX18X	00144	00024					
EXG0	00080	00176					
EXIT	00037	00053					
EXMOD	00254	00037	00040	00082	00085	00119	00122
EXPG	00248	00069	00071	00073	00117		
GNERR	00185	00032	00201				
GOC0	00096	00080					
ILOOP	00164	00168					
IO.2	00169	00165					
IOERR	00045	00029					
IOMSG	00103	00046	00047	00181	00182		
JO	00140	00131					
M77	00239	00150					
MASK7	00092	00156					
MSGAD	00227	00221					
MSGLN	00228	00222					
N14	00139	00115					

N20	00095	00048	00172		
N50	00202	00199			
NREDY	00177	00170	00171	00180	
OPFLG	00255	00223	00232		
RONBF	00246	00247			
RQCNT	00251	00211			
RQP2	00253	00106			
RQRTN	00252	00041	00067	00214	00215
SEGMS	00142	00109	00110	00113	00114
SETEQ	00006	00145	00175		
SGASC	00207	00188	00191		
SIGN	00138	00125	00127		
SWAP	00256	00051			
UDERR	00051	00035			
UDMSG	00101	00057	00059	00062	00063
UDSUS	00210	00054	00217		
VADR	00260	00146			
X18D	00180	00152			
X18M	00172	00183			
X18Q	00174	00161			
XIRT	00247	00042			

PAGE 0001

0001

ASMB,L,X,C,N,R,B

PROGRAM SEGMENT LOAD (SEX05)

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      PROGRAM SEGMENT LOAD ($EX05)
0002 00000      NAM $EX05,1
0003          ENT $EX05
0004          EXT $RGER,$LDEX
0005          EXT $MOVE,$SRCH
0006          EXT DEF04,$MDLD
0007*
0008*      $EX05 ROUTINE PROCESSES PROGRAM SEGMENT LOAD REQUEST.
0009*      THIS ROUTINE SEARCHES BOTH THE SYSTEM AND USER DIRECTORY FOR
0010*      THE DESIRED PROGRAM SEGMENT. IF THE NAME IS FOUND, AND THE
0011*      DIRECTORY TYPE IS 5 (SEGMENT), THE LAST EIGHT WORDS FO THE
0012*      DIRECTORY ENTRY ARE STORED INTO THE LAST EIGHT WORDS OF EXPG
0013*      AND CONTROL TRANSFERRED TO PRIMARY ENTRY
0014*
0015*      CALLING SEQUENCE
0016*
0017*      JSB EXEC
0018*      DEF  *+3      RETURN ADDRESS
0019*      DEF RCODE      RCODE = 8
0020*      DEF SNAME      SNAME = ASCII PROGRAM SEGMENT NAME
0021*      ---
0022*
0023 00000 060051  $EX05 LDA N2      CHECK PARAMETER COUNT
0024 00001 040224      ADA RQCNT
0025 00002 003025      CMA,$SA,INA,RSS
0026 00003 026052R      JMP RGER      NOT CORRECT # OF PARAMETERS
0027 00004 060326      LDA LSTCH
0028 00005 064227      LDB RQP2
0029 00006 016004X      JSB $SRCH
0030 00007 026024R      JMP EX30      SEGMENT FOUND
0031 00010 050326      CPA LSTCH      SET TO SEARCH OTHER DRCTRY
0032 00011 002004      INA
0033 00012 070326      STA LSTCH      SET USER/SYSTEM FLAG
0034 00013 064227      LDB RQP2      SET PROGRAM SEGMENT NAME WORDS
0035 00014 016004X      JSB $SRCH
0036 00015 026024R      JMP EX30
0037*
0038 00016 016054R      JSB XCLR      CLEAR EXEC MODULE
0039*
0040 00017 062005X      LDA DEF04
0041 00020 070305      STA TEMP
0042 00021 060057      LDA ..+4
0043 00022 064046      LDB ..-5
0044 00023 026006X      JMP $MDLD
0045*
0046 00024 060001  EX30 LDA B
0047 00025 164226      LDB RQP1,I
0048 00026 054063      CPB .8
0049 00027 026034R      JMP EX35
0050 00030 066062R      LDB N11
0051 00031 016003X      JSB $MOVE
0052 00032 000141      DEF EXPG
0053 00033 026044R      JMP EX40
0054 00034 040056  EX35 ADA .3
0055 00035 007004      CMB,INB
0056 00036 016003X      JSB $MOVE

```

```

0057 00037 000144 DEF EXPG+3
0058 00040 064225 LDB RQRTN
0059 00041 060136 LDA SGRTN
0060 00042 002003 SZA,RSS
0061 00043 074136 STB SGRTN
0062 00044 002400 EX40 CLA
0063 00045 064046 LDB ...=5
0064 00046 016003X JSB $MOVE
0065 00047 000126 DEF RONBF
0066*
0067 00050 016054R JSB XCLR
0068 00051 026002X JMP $LDEX
0069*
0070 00052 016054R RQER JSB XCLR
0071 00053 026001X JMP $RQER
0072*
0073 00054 000000 XCLR NOP
0074 00055 060245 LDA EXMOD
0075 00056 050046 CPA ...=5
0076 00057 003004 CMA,INA
0077 00060 070245 STA EXMOD
0078 00061 126054R JMP XCLR,I
0079*
0080 00062 177765 N11 DEC -11
0081 00000 A EQU 0
0082 00001 B EQU 1
0083 00053 .. EQU 538
0084 00051 N2 EQU ...=2
0085 00056 .3 EQU ...+3
0086 00063 .8 EQU ...+8
0087*
0088 00100 . EQU 1008
0089 00126 RONBF EQU ...+22
0090 00136 SGRTN EQU RONBF+8
0091 00141 EXPG EQU ...+33
0092 00224 RQCNT EQU ...+84
0093 00225 RQRTN EQU ...+85
0094 00226 RQP1 EQU ...+86
0095 00227 RQP2 EQU ...+87
0096 00245 EXMOD EQU ...+101
0097 00305 TEMP0 EQU ...+2058
0098 00305 TEMP EQU TEMP0
0099 00326 LSTCH EQU ...+150

```

IF 1ST SEG LOAD (IE. SGRTN=0
THEN SET SGRTN TO RQRTN FOR
SEGMENT RETURN.

GO TO LOAD AND EXECUTE

0100*

END

** NO ERRORS*

SEX05	00023	00003					
SLDEX	00004	00068					
SMDLD	00006	00044					
\$MOVE	00005	00051	00056	00064			
\$RQER	00004	00071					
\$SRCH	00005	00029	00035				
.	00088 00096	00089 00097	00091 00099	00092	00093	00094	00095
..	00083 00086	00042	00043	00063	00075	00084	00085
.3	00085	00054					
.8	00086	00048					
*A	00081						
B	00082	00046					
DEF04	00006	00040					
EX30	00046	00030	00036				
EX36	00054	00049					
EX40	00062	00053					
EXMOD	00096	00074	00077				
EXPG	00091	00052	00057				
LSTCH	00099	00027	00031	00033			
N11	00080	00050					
N2	00084	00023					
RONBF	00089	00065	00090				
RQCNT	00092	00024					
RQER	00070	00026					
RQP1	00094	00047					
RQP2	00095	00028	00034				
RQRTN	00093	00058					

SGRTN	00090	00059	00061		
TEMP	00098	00041			
TEMP0	00097	00098			
XCLR	00073	00038	00067	00070	00078

PAGE 0001

0001

ASMB,L,X,C,N,R,B

FILE NAME SEARCH ROUTINE (SEX06

★ ★ NO ERRORS★

```

0001          ASMB,L,X,C,N,R,B      FILE NAME SEARCH ROUTINE (SEX06
0002 00000      NAM SEX06,1
0003          ENT SEX06
0004          EXT $RQER
0005          EXT $SRCH,$ADDR
0006          EXT $IRT,$CIC3
0007*
0008*      SEX06 ROUTINE IS THE FILE NAME SEARCH PROCESSOR ROUTINE,
0009*      THIS ROUTINE SEARCHES THE USER DIRECTORY FILE FOR A USER
0010*      SPECIFIED FILE. IF THE FILE IS FOUND, THE LENGTH OF THE FILE IS
0011*      STORED INTO THE USER SPECIFIED WORD. IF FILE CANNOT BE FOUND,
0012*      THEN USER SPECIFIED FILE LENGTH WORD IS SET TO ZERO.
0013*
0014*      CALLING SEQUENCE:
0015*
0016*      JSB EXEC
0017*      DEF ++4 (OR 5)
0018*      DEF RCODE      RCODE = 18
0019*      DEF FNAME      FNAME = ASCII FILE NAME (5 CHARACTERS)
0020*      DEF NSECT      NSECT = FILE LENGTH
0021*      DEF WAITF      BIT 0 = 0/1: WAIT/NO WAIT
0022*                  BIT 1 = 0/1: USER/SYSTEM DIRECTORY
0023*      ---
0024*
0025 00000 060224 SEX06 LDA RQCNT
0026 00001 050056      CPA ..+3
0027 00002 026010R      JMP EX01
0028 00003 050057      CPA ..+4
0029 00004 002001      RSS
0030 00005 026071R      JMP RQER      CAN ONLY TAKE 3 OR 4 PARAM
0031 00006 060231      LDA RQP4      CHECK WAIT FLAG ADDR
0032 00007 016003X      JSB $ADDR
0033 00010 060230 EX01 LDA RQP3      CHECK USER NSECT ADDR
0034 00011 016003X      JSB $ADDR
0035 00012 064224      LDB RQCNT
0036 00013 054057      CPB ..+4      4 PARAM?
0037 00014 002001      RSS
0038 00015 026031R      JMP EX02      NO= MEANS WITH WAIT & USER DIREC
0039 00016 164231      LDB RQP4,I
0040 00017 006011      SLB,RSS      BIT 0=1 (NO WAIT)?
0041 00020 026027R      JMP EX03      =NO.
0042 00021 002400      CLA
0043 00022 070327      STA FLFLG      CLEAR FILE VALIDITY FLAG
0044 00023 060054      LDA ..+1      =YES. SET BIT 15 & RQRTN IN FILR
0045 00024 001300      RAR
0046 00025 030225      IOR RQRTN
0047 00026 070164      STA FILRW
0048*
0049 00027 005310 EX03 RBR,SLB      BIT 1 SET? (SYS. DIRECTORY?)
0050 00030 002400      CLA      =YES. SET A=0
0051 00031 064227 EX02 LDB RQP2      SET UP TO SEARCH DIRECTORY
0052 00032 016002X      JSB $SRCH      GO SEARCH DIRECTORY
0053 00033 026066R      JMP EX10      =FOUND
0054 00034 170230 EX05 STA RQP3,I      STORE 3 INTO NSECT
0055 00035 044052      ADB N1
0056*

```

0057	00036	060164		LDA FILRW	
0058	00037	002003		SZA, RSS	W/O WAIT?
0059	00040	026061R		JMP EX09	-NO
0060	00041	060133		LDA MDFLG	-YES, MDFLG BIT 15 SET?
0061	00042	002021		SSA, RSS	
0062	00043	026051R		JMP EX07	-NO
0063	00044	060164		LDA FILRW	
0064	00045	002004		INA	GET COMPLETION SUBROUTINE ADDR
0065	00046	072101R		STA SUB	
0066	00047	002400		CLA	SET A=0 FOR NORMAL COMPLETION
0067	00050	116101R		JSB SUB, I	EXECUTE USER COMPL. SUBROUTINE
0068*					
0069	00051	002400	EX07	CLA	
0070	00052	070164		STA FILRW	CLEAR SEARCH W/O WAIT FLAG
0071	00053	016073R		JSB FREEM	FREE EXEC MOD AREA
0072	00054	060225		LDA RQRTN	
0073	00055	002021		SSA, RSS	BIT 15 OF RQRTN SET?
0074*					(EXEC CALL HELD OFF?)
0075	00056	026005X		JMP SCIC3	-NO, RETURN TO SUSP. POINT
0076	00057	001665		ELA, CLE, ERA	-YES, CLEAR BIT 15 & RETURN
0077	00060	002001		RSS	
0078*					
0079	00061	060225	EX09	LDA RQRTN	SET UP RETURN ADDR FOR SIRT
0080	00062	070137		STA XIRT	
0081	00063	016073R		JSB FREEM	
0082	00064	160001		LDA B, I	SET TRACK/SECTOR IN A REGISTR
0083	00065	026004X		JMP SIRT	
0084*					
0085	00066	044057	EX10	ADB .4	STORE # SECTORS IN FILE
0086	00067	160001		LDA B, I	INTO NSECT
0087	00070	026034R		JMP EX05	
0088	00071	016073R	RQER	JSB FREEM	
0089	00072	026001X		JMP SRQER	
0090*					
0091	00073	000000	FREEM	NOP	
0092	00074	060245		LDA EXMOD	
0093	00075	050045		CPA ..-6	
0094	00076	003004		CMA, INA	
0095	00077	070245		STA EXMOD	
0096	00100	126073R		JMP FREEM, I	
0097*					
0098	00101	000000	SUB	NOP	
0099	00000		A	EQU 0	
0100	00001		B	EQU 1	
0101	00053		..	EQU 63B	
0102	00050		N3	EQU ..-3	
0103	00052		N1	EQU ..-1	
0104	00057		.4	EQU ..+4	
0105	00100		.	EQU 100B	
0106	00126		RONBF	EQU .+26B	
0107	00133		MDFLG	EQU RONBF+6	
0108	00137		XIRT	EQU RONBF+9	
0109	00164		FILRW	EQU .+62	
0110	00224		RQCNT	EQU .+84	
0111	00225		RQRTN	EQU .+85	
0112	00227		RQP2	EQU .+87	

0113	00230	RQP3	EQU	+.88
0114	00231	RQP4	EQU	+.89
0115	00242	XSUSP	EQU	+.98
0116	00245	EXMOD	EQU	+.101
0117	00327	FLFLG	EQU	+.151
0118			END	

★ ★ NO ERRORS★

\$ADDR	00005	00032	00034				
\$CIC3	00006	00075					
\$EX06	00025	00003					
\$IRT	00006	00083					
\$RQER	00004	00089					
\$SRCH	00005	00052					
.	00105 00114	00106 00115	00109 00116	00110 00117	00111	00112	00113
..	00101 00103	00026 00104	00028	00036	00044	00093	00102
.4	00104	00085					
PA	00099						
B	00100	00082	00086				
EX01	00033	00027					
EX02	00051	00038					
EX03	00049	00041					
EX05	00054	00087					
EX07	00069	00062					
EX09	00079	00059					
EX10	00085	00053					
EXMOD	00116	00092	00095				
FILRW	00109	00047	00057	00063	00070		
FLFLG	00117	00043					
FREEM	00091	00071	00081	00088	00096		
MDFLG	00107	00060					
N1	00103	00055					
PN3	00102						
RONBF	00106	00107	00108				
RQCNT	00110	00025	00035				

RQER	00088	00030		
RQP2	00112	00051		
RQP3	00113	00033	00054	
RQP4	00114	00031	00039	
RQRTN	00111	00046	00072	00079
SUB	00098	00065	00067	
XIRT	00108	00080		
•XSUSP	00115			

PAGE 0001

0001

ASMB,L,C,X,N,R,B

TIME REQUEST PROCESSOR (SEX07)

** NO ERRORS*


```

0001          ASMB,L,C,X,N,R,B      TIME REQUEST PROCESSOR ($EX07)
0002 000000      NAM $EX07,1
0003          ENT $EX07
0004          EXT SRQER,$ADDR
0005          EXT SIRT
0006*
0007*      $EX07 IS THE TIME PROCESSOR ROUTINE MODULE
0008*
0009*      CALLING SEQUENCE
0010*
0011*          JSB EXEC
0012*          DEF *+3
0013*          DEF RCODE      RCODE = 11
0014*          DEF ARRAY      ADDRESS OF 5 WORD ARRAY
0015*          ---
0016*
0017 000000 060051 $EX07 LDA N2
0018 000001 040224      ADA RQCNT
0019 000002 002002      SZA
0020 000003 026063R     JMP RQER
0021 000004 060227      LDA RQP2
0022 000005 070277      STA ADDR      SAVE USER BUFFER ADDR
0023 000006 016002X     JSB $ADDR
0024 000007 006400      CLB
0025 000010 062162R     LDA .600
0026 000011 040105      ADA CLOCK+1   COMPUTE TENTHS OF SEC AND SECS
0027 000012 002002      SZA
0028 000013 026020R     JMP EX10
0029 000014 170277      STA ADDR,I     STORE 0 INTO TENTHS OF SEC
0030 000015 034277      ISZ ADDR
0031 000016 170277      STA ADDR,I     STORE 0 INTO SECS
0032 000017 026033R     JMP EX20
0033 000020 016070R EX10 JSB ..DIV    FORM TENTHS OF SEC AND SEC
0034 000021 000065      DEF .10
0035 000022 070305      STA TEMP      SAVE SECONDS
0036 000023 074000      STB A
0037 000024 001723      ALF,RAR
0038 000025 040001      ADA B
0039 000026 040001      ADA B
0040 000027 170277      STA ADDR,I     STORE 100'S OF SEC
0041 000030 034277      ISZ ADDR
0042 000031 060305      LDA TEMP
0043 000032 170277      STA ADDR,I     STORE SECONDS
0044 000033 034277 EX20 ISZ ADDR      INCREMENT TO MINUTES ADDRESS
0045 000034 006400      CLB
0046 000035 060104      LDA CLOCK     COMPUTE MINUTES AND HOURS
0047 000036 002002      SZA
0048 000037 026044R     JMP EX30
0049 000040 170277      STA ADDR,I     STORE 0 INTO MINUTES
0050 000041 034277      ISZ ADDR
0051 000042 170277      STA ADDR,I     STORE 0 INTO MINUTES
0052 000043 026051R     JMP EX40
0053 000044 016070R EX30 JSB ..DIV    FORM MINUTES AND HOURS
0054 000045 000163R     DEF .60
0055 000046 174277      STB ADDR,I     STORE MINUTES
0056 000047 034277      ISZ ADDR

```

0057	00050	170277		STA ADDR,I	STORE HOURS
0058	00051	034277	EX40	ISZ ADDR	
0059	00052	002400		CLA	
0060	00053	170277		STA ADDR,I	STORE 0 INTO DAYS
0061	00054	060245		LDA EXMOD	
0062	00055	050044		CPA ...-7	
0063	00056	003004		CMA,INA	
0064	00057	070245		STA EXMOD	FREE MODULE AREA
0065	00060	060225		LDA RQRTN	SET UP RETURN ADDR FOR SIRT
0066	00061	070137		STA XIRT	
0067	00062	026003X		JMP SIRT	
0068*					
0069*					
0070	00063	060245	RQER	LDA EXMOD	
0071	00064	050044		CPA ...-7	
0072	00065	003004		CMA,INA	
0073	00066	070245		STA EXMOD	
0074	00067	026001X		JMP SRQER	
0075	00070	000000	..DIV	NOP	
0076	00071	076153R		STB TEMPP	SAVE HI DIVIDEND
0077	00072	166070R		LDB ..DIV,I	GET ADDRESS OF DIVISOR
0078	00073	164001		LDB 1,I	GET DIVISOR
0079	00074	036070R		ISZ ..DIV	BUMP RETURN
0080	00075	006003		SZB,RSS	ZERO DIVISOR
0081	00076	026151R		JMP OVFL0	YES
0082	00077	006120		CLE,SSB	SET B TO ABS AND E TO SIGN
0083	00100	007204		CMB,CME,INB	
0084	00101	076154R		STB PLUSD	STORE POSITIVE DIVISOR
0085	00102	007004		CMB,INB	
0086	00103	076155R		STB MIND	STORE NEGATIVE DIVISOR
0087	00104	066156R		LDB M16	
0088	00105	076157R		STB COUNT	INITIALIZE COUNTER
0089	00106	064051		LDB N2	
0090	00107	076160R		STB SIGNN	INITIALIZE SIGNS
0091	00110	076161R		STB RSIGN	
0092	00111	066153R		LDB TEMPP	
0093	00112	006021		SSB,RSS	TEST DIVIDEND SIGN
0094	00113	026121R		JMP DIV1	POSITIVE
0095	00114	036161R		ISZ RSIGN	SET REMAINDER SIGN NEGATIVE
0096	00115	007200		CMB,CME	COMPLEMENT THE DOUBLE LENGTH
0097	00116	002002		SZA	DIVIDEND AND E BIT
0098	00117	003006		CMA,INA,RSS	
0099	00120	006004		INB	
0100	00121	002040	DIV1	SEZ	TEST QUOTIENT SIGN
0101	00122	036160R		ISZ SIGNN	IF NEG SET SIGN TO SAY NEG QUOT
0102	00123	046155R		ADB MIND	OVERFLOW?
0103	00124	006021		SSB,RSS	
0104	00125	026151R		JMP OVFL0	
0105	00126	046154R		ADB PLUSD	
0106	00127	000066	LOOP	CLE,ELA	SHIFT
0107	00130	005600		ELB	
0108	00131	046155R		ADB MIND	TEST
0109	00132	006021		SSB,RSS	
0110	00133	002005		INA,RSS	DIVIDE OK
0111	00134	046154R		ADB PLUSD	NO DIVIDE
0112	00135	036157R		ISZ COUNT	ONLY MORE?

```

0113 00136 026127R      JMP LOOP      YES
0114 00137 003006      CMA,INA,SZA    SET QUOTIENT TO NEGATIVE
0115 00140 002020      SSA              AND MAKE SURE
0116 00141 002001      RSS              THERE IS NO OVERFLOW
0117 00142 026151R      JMP OVFL0      OVERFLOW
0118 00143 103101      CLO
0119 00144 036160R      ISZ SIGNN      IF POSITIVE
0120 00145 003004      CMA,INA      TWO S COMPLEMENT
0121 00146 036161R      ISZ RSIGN      TWST FOR CORRECT QUOTIENT
0122 00147 126070R      JMP ..DIV,I
0123 00150 007005      CMB,INB,RSS
0124 00151 102101      OVFL0 STF 1      SET OVERFLOW BIT
0125 00152 126070R      JMP ..DIV,I      RETURN
0126 00153 000000      TEMPP BSS 1
0127 00154 000000      PLUSD BSS 1
0128 00155 000000      MIND BSS 1
0129 00156 177760      M16 DEC -16
0130 00157 000000      COUNT BSS 1
0131 00160 000000      SIGNN BSS 1
0132 00161 000000      RSIGN BSS 1
0133 00162 001130      .600 DEC 600
0134 00163 000074      .60 DEC 60
0135*
0136 000000      A EQU 0
0137 000001      B EQU 1
0138 000053      .. EQU 53B
0139 000051      N2 EQU ..-2
0140 000065      .10 EQU ..+10
0141 00100      . EQU 100B
0142 00104      CLOCK EQU .+4
0143 00126      RONBF EQU .+26B
0144 00137      XIRT EQU RONBF+9
0145 00224      RQCNT EQU .+84
0146 00225      RQRTN EQU .+85
0147 00227      RQP2 EQU .+87
0148 00246      EXMOD EQU .+101
0149 00305      TEMP0 EQU .+205B
0150 00305      TEMP EQU TEMP0
0151 00277      ADDR EQU .+127
0152      END
** NO ERRORS*

```

\$ADDR	00004	00023					
\$EX07	00017	00003					
\$IRT	00005	00067					
\$RQER	00004	00074					
.	00141 00149	00142 00151	00143	00145	00146	00147	00148
..	00138	00062	00071	00139	00140		
..DIV	00075	00033	00053	00077	00079	00122	00125
.10	00140	00034					
.60	00134	00054					
.600	00133	00025					
A	00136	00036					
ADDR	00151 00043 00057	00022 00044 00058	00029 00049 00060	00030 00050	00031 00051	00040 00055	00041 00056
B	00137	00038	00039				
CLOCK	00142	00026	00046				
COUNT	00130	00088	00112				
DIV1	00100	00094					
EX10	00033	00028					
EX20	00044	00032					
EX30	00053	00048					
EX40	00058	00052					
EXMOD	00148	00061	00064	00070	00073		
LOOP	00106	00113					
M16	00129	00087					
MIND	00128	00086	00102	00108			
N2	00139	00017	00089				
OVFLO	00124	00081	00104	00117			

PLUSD	00127	00084	00105	00111
RONBF	00143	00144		
RQCNT	00145	00018		
RQER	00070	00020		
RQP2	00147	00021		
RQRTN	00146	00065		
RSIGN	00132	00091	00095	00121
SIGNN	00131	00090	00101	00119
TEMP	00150	00035	00042	
TEMP0	00149	00150		
TEMPP	00126	00076	00092	
XIRT	00144	00066		

PAGE 0001

0001

ASMB,L,X,C,N,R,B

SPECIAL RT DISC ALLOCATION REQUE

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      SPECIAL RT DISC ALLOCATION REQUE
0002 00000      NAM SEX08,1
0003          ENT SEX08
0004          EXT $ADDR,$SYIO,$IDL1,$RQER,$ABRT
0005          EXT $WAIT,$TYPE,$CLER
0006          EXT $IRT
0007*
0008*      CALLING SEQUENCE:
0009*
0010*          JSB EXEC
0011*          DEF **6
0012*          DEF RCODE      RCODE = 4
0013*          DEF #TRAK      DESIRED # OF CONTIGUOUS TRACKS
0014*          DEF TRACK      ADDR TO STORE STARTING TRACK #
0015*          DEF DISC      ADDR TO CONTAIN L.U. # =2
0016*          DEF #SECT      ADDR TO CONTAIN # SECTORS/TRACK
0017*          ---
0018*
0019 00000 060224 $EX08 LDA RQCNT      CHECK PARAMETER COUNT
0020 00001 040046      ADA N5
0021 00002 002002      SZA
0022 00003 026132R      JMP RQER      ILLEGAL PARAMETER COUNT
0023 00004 060230      LDA RQP3
0024 00005 016001X      JSB $ADDR      CHECK TRACK STORE ADDR
0025 00006 060231      LDA RQP4
0026 00007 016001X      JSB $ADDR      CHECK DISC STORE ADDRESS
0027 00010 060232      LDA RQP5
0028 00011 016001X      JSB $ADDR      CHECK # SECT STORE ADDRESS
0029 00012 060267      LDA RTRK      CHECK IF PREVIOUS TRACK REQUEST
0030 00013 002002      SZA
0031 00014 026022R      JMP EX10      YES=SO PROCESS REQUEST
0032 00015 060160      LDA SYNTS      NO=SO FORM INITIAL TRACK # OF
0033 00016 040074      ADA M377
0034 00017 001727      ALF,ALF
0035 00020 010074      AND M377
0036 00021 070267      STA RTRK
0037 00022 160227      EX10 LDA RQP2,I      GET USER # TRACKS REQUESTED
0038 00023 001665      ELA,CLE,ERA
0039 00024 040267      ADA RTRK      ADD CURRENT TRACK #
0040 00025 070001      STA B
0041 00026 060102      LDA JBINC
0042 00027 001727      ALF,ALF
0043 00030 010074      AND M377
0044 00031 002003      SZA,RSS
0045 00032 060154      LDA DISCO
0046 00033 010076      AND M3777
0047 00034 007004      CMB,INB
0048 00035 040001      ADA B
0049 00036 002021      SSA,RSS
0050 00037 026117R      JMP EX100      DESIRED # TRACK ARE AVAILABLE
0051 00040 034261      ISZ OPFLG
0052 00041 016002X      JSB $SYIO      PRINT # TRACK UNAVAILABLE
0053 00042 000002      DEC 2
0054 00043 000001      DEC 1
0055 00044 000141R      DEF AWORK
0056 00045 177754      DEC =20

```

0057	00046	000050R	DEF **2	
0058	00047	026006X	JMP \$WAIT	
0059	00050	002400	CLA	
0060	00051	070261	STA OPFLG	
0061	00052	160227	LDA RQP2,I	CHECK IF RETURN TO USER OR ABORT
0062	00053	002021	SSA,RSS	
0063	00054	026066R	JMP EX50	
0064	00055	003400	CCA	
0065	00056	170230	EX40 STA RQP3,I	SET TRACK TO -1 TO INDICATE NOT
0066	00057	060245	LDA EXMOD	
0067	00060	050043	CPA ...-8	
0068	00061	003004	CMA,INA	
0069	00062	070245	STA EXMOD	
0070	00063	060225	LDA RQRTN	SET UP RETURN ADDR FOR SIRT
0071	00064	070137	STA XIRT	SET UP RETURN ADDR FOR SIRT
0072	00065	026011X	JMP \$IRT	
0073	00066	060113	EX50 LDA DUMPS	CHECK IF ABORT FLAG SET
0074	00067	064245	LDB EXMOD	
0075	00070	054043	CPB ...-8	
0076	00071	007004	CMB,INB	
0077	00072	074245	STB EXMOD	
0078	00073	002020	SSA	
0079	00074	026115R	JMP EX60	YES
0080	00075	062140R	LDA JO	NO-80 LOOK FOR NEXT JOB CARD
0081	00076	064111	LDB BATCH	
0082	00077	054054	CPB ...+1	
0083	00100	002400	CLA	
0084	00101	070273	STA \$IDCD	
0085	00102	016010X	JSB \$CLER	
0086	00103	006400	CLB	
0087	00104	060262	LDA SWAP	
0088	00105	074262	STB SWAP	
0089	00106	074113	STB DUMPS	CLEAR PROGRAM DUMP FLAG
0090	00107	002021	SSA,RSS	
0091	00110	026003X	JMP \$IDL1	
0092	00111	002404	CLA,INA	
0093	00112	070111	STA BATCH	
0094	00113	007400	CCB	
0095	00114	026007X	JMP \$TYPE	
0096	00115	062137R	EX60 LDA SIGN	SET BIT 15 FOR ADUMP
0097	00116	026005X	JMP \$ABRT	TRANSFER TO ABORT PROCESSOR
0098*				
0099	00117	060267	EX100 LDA RTRK	
0100	00120	170230	STA RQP3,I	STORE STARTING TRACK NUMBER
0101	00121	164227	LDB RQP2,I	
0102	00122	005665	ELB,CLE,ERB	
0103	00123	040001	ADA B	
0104	00124	070267	STA RTRK	
0105	00126	060055	LDA .2	
0106	00126	170231	STA RQP4,I	SET L.U. #
0107	00127	060116	LDA SECTR	
0108	00130	170232	STA RQP5,I	STORE # SECTORS/TRACK
0109	00131	026057R	JMP EX40+1	RETURN
0110	00132	060245	RQER LDA EXMOD	
0111	00133	050043	CPA ...-8	
0112	00134	003004	CMA,INA	

0113	00135	070245	STA	EXMOD
0114	00136	026004X	JMP	\$RQER
0115	00137	100000	SIGN	OCT 100000
0116	00140	045117	JO	ASC 1,JO
0117	00141	021440	AWORK	ASC 10,# TRACKS UNAVAILABLE
	00142	052122		
	00143	040503		
	00144	045523		
	00145	020125		
	00146	047101		
	00147	053101		
	00150	044514		
	00151	040502		
	00152	046105		
0118	00000		A	EQU 0
0119	00001		B	EQU 1
0120	00100		.	EQU 1000
0121	00053		..	EQU 538
0122	00046		N5	EQU ..-5
0123	00055		.2	EQU ..+2
0124	00074		M377	EQU ..+17
0125	00076		M3777	EQU ..+19
0126	00102		JBINC	EQU .+2
0127	00111		BATCH	EQU .+9
0128	00113		DUMPS	EQU .+11
0129	00116		SECTR	EQU .+14
0130	00126		RONBF	EQU .+268
0131	00137		XIRT	EQU RONBF+9
0132	00154		DISCO	EQU .+44
0133	00160		SYNTS	EQU .+48
0134	00224		RQCNT	EQU .+84
0135	00225		RQRTN	EQU .+85
0136	00227		RQP2	EQU .+87
0137	00230		RQP3	EQU .+88
0138	00231		RQP4	EQU .+89
0139	00232		RQP5	EQU .+90
0140	00245		EXMOD	EQU .+101
0141	00261		OPFLG	EQU .+113
0142	00262		SWAP	EQU .+114
0143	00267		RTRK	EQU .+119
0144	00273		SIDCD	EQU .+123
0145			END	

** NO ERRORS*

\$ABRT 00004/02 00097/02
\$ADDR 00004/02 00024/02 00026/02 00028/02
\$CLER 00005/02 00085/02
\$EX08 00019/02 00003/02
\$IDCD 00144/02 00084/02
\$IDL1 00004/02 00091/02
\$IRT 00006/02 00072/02
\$RQER 00004/02 00114/02
\$SYIO 00004/02 00052/02
\$TYPE 00005/02 00095/02
\$WAIT 00005/02 00058/02
.
00120/02 00126/02 00127/02 00128/02 00129/02 00130/02 00132/02
00133/02 00134/02 00135/02 00136/02 00137/02 00138/02 00139/02
00140/02 00141/02 00142/02 00143/02 00144/02
..
00121/02 00067/02 00075/02 00082/02 00111/02 00122/02 00123/02
00124/02 00125/02
.2
00123/02 00105/02
*A
00118/02
AWORK 00117/02 00055/02
B
00119/02 00040/02 00048/02 00103/02
BATCH 00127/02 00081/02 00093/02
DISCO 00132/02 00045/02
DUMPS 00128/02 00073/02 00089/02
EX10 00037/02 00031/02
EX100 00099/02 00050/02
EX40 00065/02 00109/02
EX50 00073/02 00063/02
EX60 00096/02 00079/02
EXMOD 00140/02 00066/02 00069/02 00074/02 00077/02 00110/02 00113/02

JBINC 00126/02 00041/02
JO 00116/02 00080/02
M377 00124/02 00033/02 00035/02 00043/02
M3777 00125/02 00046/02
N5 00122/02 00020/02
OPFLG 00141/02 00051/02 00060/02
RONBF 00130/02 00131/02
RQCNT 00134/02 00019/02
RQER 00110/02 00022/02
RQP2 00136/02 00037/02 00061/02 00101/02
RQP3 00137/02 00023/02 00065/02 00100/02
RQP4 00138/02 00025/02 00106/02
RQP5 00139/02 00027/02 00108/02
RQRTN 00135/02 00070/02
RTRK 00143/02 00029/02 00036/02 00039/02 00099/02 00104/02
SECTR 00129/02 00107/02
SIGN 00115/02 00096/02
SWAP 00142/02 00087/02 00088/02
SYNT8 00133/02 00032/02
XIRT 00131/02 00071/02

PAGE 0001

0001

ASMB,L,X,C,N,R,B :EQ PROCESSOR

** NO ERRORS*

0001		ASMB,L,X,C,N,R,B	:EQ PROCESSOR
0002	00000	NAM SEX09,1	
0003		ENT SEX09	
0004		EXT \$SYIO,CNDEC,CNOCT	
0005		EXT \$CIC3,SAVES,\$RTRN	
0006	00000 064123	SEX09 LDB JBUF	
0007	00001 004066	CLE,ELB	
0008	00002 076367R	STB BUFAD	SET BUFFER CHAR ADDRESSES
0009	00003 060275	LDA \$MDBF+1	
0010	00004 072366R	STA EXITA	
0011	00005 002400	CLA	
0012	00006 072372R	STA CURNT	
0013	00007 016313R	JSB GET	
0014	00010 016313R	JSB GET	L
0015	00011 001727	ALF,ALF	
0016	00012 072371R	STA SAVE	SAVE 1ST CHAR,
0017	00013 016313R	JSB GET	U
0018	00014 032371R	IOR SAVE	
0019	00015 052312R	CPA TR	:TRACK REQUEST?
0020	00016 026217R	JMP TRACK	-YES
0021	00017 016313R	EX00 JSB GET	SCAN FOR , OR BLANK
0022	00020 052374R	CPA COMMA	
0023	00021 026025R	JMP EX01	FOUND THE COMMA
0024	00022 052214R	CPA BLANK	THEN IS IT BLANK
0025	00023 026052R	JMP EX10	ALL EQT VALUES
0026	00024 026017R	JMP EX00	NEITHER: SO GET NEXT CHAR
0027	00025 016313R	EX01 JSB GET	
0028	00026 016352R	JSB CHKDG	CHECK FOR VALID DIGIT
0029	00027 072372R	STA CURNT	
0030	00030 016313R	JSB GET	
0031	00031 052214R	CPA BLANK	
0032	00032 026045R	JMP EX05	
0033	00033 052374R	CPA COMMA	
0034	00034 026157R	JMP ERMES	
0035	00035 016352R	JSB CHKDG	CHECK FOR VALID DIGIT
0036	00036 072371R	STA SAVE	
0037	00037 062372R	LDA CURNT	
0038	00040 001723	ALF,RAR	MULTIPLY BY 10
0039	00041 042372R	ADA CURNT	
0040	00042 042372R	ADA CURNT	
0041	00043 042371R	ADA SAVE	
0042	00044 072372R	STA CURNT	
0043	00045 062372R	EX05 LDA CURNT	IF PARAMETER IS ZERO,
0044	00046 002003	SZA,RSS	LIST ALL EQ ENTRIES
0045	00047 026052R	JMP EX10	
0046	00050 007400	CCB	OTHERWISE, LIST ONE
0047	00051 026056R	JMP EX20	
0048	00052 002404	EX10 CLA,INA	SET CURRENT EQT# TO 1
0049	00053 072372R	STA CURNT	
0050	00054 064120	LDB EQT#	
0051	00055 007004	CMB,INB	
0052	00056 076373R	EX20 STB LOOP	CHECK EQT# VALIDIDT
0053	00057 062372R	LDA CURNT	CHECK IF LEGAL EQT#
0054	00060 003004	CMA,INA	
0055	00061 040120	ADA EQT#	
0056	00062 002020	SSA	

0057	00063	026157R	JMP	ERMES	NO
0058	00064	062372R	LDA	CURNT	
0059	00065	016002X	JSB	CNDEC	CONVERT TO ASCII
0060	00066	072166R	STA	EQOUT+2	AND STORE INTO FORMAT
0061	00067	062372R	LDA	CURNT	COMPUTE EQT ADDRESS
0062	00070	040052	ADA	N1	
0063	00071	070001	STA	B	
0064	00072	001700	ALF		
0065	00073	040001	ADA	B	
0066	00074	040117	ADA	EQTAB	
0067	00075	040055	ADA	.2	
0068	00076	072370R	STA	EQTAD	
0069	00077	160000	LDA	A,I	
0070	00100	010072	AND	.77	
0071	00101	016003X	JSB	CNOCT	
0072	00102	072171R	STA	EQOUT+5	I10 CHANNEL #
0073	00103	162370R	LDA	EQTAD,I	
0074	00104	001727	ALF,ALF		
0075	00105	001222	RAL,RAL		
0076	00106	010062	AND	.7	
0077	00107	016002X	JSB	CNDEC	
0078	00110	010074	AND	.377	
0079	00111	032215R	IOR	UPBLK	
0080	00112	001727	ALF,ALF		
0081	00113	072200R	STA	EQOUT+12	UNIT#
0082	00114	066375R	LDB	ASC0	
0083	00115	162370R	LDA	EQTAD,I	
0084	00116	002020	SSA		
0085	00117	066376R	LDB	ASCD	
0086	00120	076175R	STB	EQOUT+9	DMA OR NO DMA
0087	00121	066375R	LDB	ASC0	
0088	00122	162370R	LDA	EQTAD,I	
0089	00123	001222	RAL,RAL		
0090	00124	000010	SLA		
0091	00125	066377R	LDB	ASCR	
0092	00126	076176R	STB	EQOUT+10	RESIDENT NON-RESIDENCE
0093	00127	036370R	ISZ	EQTAD	
0094	00130	162370R	LDA	EQTAD,I	
0095	00131	001222	RAL,RAL		
0096	00132	010056	AND	.3	
0097	00133	016003X	JSB	CNOCT	
0098	00134	010074	AND	.377	
0099	00135	032216R	IOR	UPS	
0100	00136	072201R	STA	EQOUT+13	AVAILABILITY
0101	00137	162370R	LDA	EQTAD,I	
0102	00140	001727	ALF,ALF		
0103	00141	010074	AND	.377	
0104	00142	016003X	JSB	CNOCT	
0105	00143	072174R	STA	EQOUT+8	DVRXX
0106	00144	062163R	LDA	EQOUT-1	
0107	00145	066213R	LDB	D14	
0108	00146	016326R	JSB	MESSG	GO PRINT EQT MESSAGE
0109	00147	036372R	ISZ	CURNT	
0110	00150	036373R	ISZ	LOOP	
0111	00151	026057R	JMP	EX20+1	
0112	00152	060245	EXIT	LDA	EXMOD

```

0113 00153 050042 CPA ...9
0114 00154 003004 CMA,INA
0115 00155 070245 STA EXMOD
0116 00156 126366R JMP EXITA,I
0117*
0118 00157 062202R ERMES LDA ERR=1
0119 00160 064061 LDB ...+6
0120 00161 016326R XTMSG JSB MESSG PRINT 'INPUT ERROR'
0121 00162 026152R JMP EXIT
0122*
0123 00163 000164R DEF **1
0124 00164 042521 EQOUT ASC 2,EQT
00165 052040
0125 00166 000000 NOP EQOUT+2 = EQT#
0126 00167 020103 ASC 2, CH
00170 044040
0127 00171 000000 NOP EQOUT+5 = CH#
0128 00172 020104 ASC 2, DVR
00173 053122
0129 00174 000000 NOP EQOUT+8 = DVRXX
0130 00175 000000 NOP EQOUT+9 = D OR 0
0131 00176 000000 NOP EQOUT+10 = R OR 0
0132 00177 020125 ASC 1, U
0133 00200 000000 NOP EQOUT+11 = UNIT
0134 00201 000000 NOP EQOUT+12 = STATUS
0135 00202 000203R DEF **1
0136 00203 044516 ERR ASC 6,INPUT ERROR
00204 050125
00205 052040
00206 042522
00207 051117
00210 051040
0137 00211 000006X DFRTN DEF $RTN
0138 00212 000014 D12 DEC 12
0139 00213 000016 D14 DEC 14
0140 00214 000040 BLANK OCT 40
0141 00215 020000 UPBLK OCT 020000
0142 00216 051400 UPS OCT 051400
0143*
0144 00217 060274 TRACK LDA $MDBF
0145 00220 072310R STA BADMS+3 SAVE BAD TRACK COUNT
0146 00221 060157 LDA NXTTS GET USER NEXT TRACK/SECTOR
0147 00222 040074 ADA .377
0148 00223 001727 ALF,ALF
0149 00224 010074 AND .377
0150 00225 072304R STA TRMSG+12 SAVE NEXT AVAIL. TRACK#
0151 00226 060154 LDA DISCO GET END-OF-DISC TRACK#
0152 00227 010074 AND .377
0153 00230 003000 CMA
0154 00231 042304R ADA TRMSG+12
0155 00232 002021 SSA,RSS NEXT TRK/SCTR END OF DISC?
0156 00233 026265R JMP TRAC2 *YES, GO SET UP TO PRINT 'NONE'
0157 00234 062304R LDA TRMSG+12
0158 00235 016002X JSB CNDEC CONVERT TRACK# TO ASCII
0159 00236 006004 INB
0160 00237 164001 LDB B,I

```

```

0161 00240 072304R TRAC1 STA TRMSG+12
0162 00241 076303R STB TRMSG+11
0163 00242 062270R LDA TRMSG
0164 00243 066212R LDB D12
0165 00244 016326R JSB MESSG PRINT TRACK MESSAGE
0166 00245 062310R LDA BADMS+3 GET BAD TRACK COUNT
0167 00246 066211R LDB DFRTN
0168 00247 002001 RSS
0169 00250 164001 LDB B,I RESOLVE INDIRECT ADDRESSING
0170 00251 005275 RBL,CLE,SLB,ERB
0171 00252 026250R JMP *-2
0172 00253 007004 CMB,INB
0173 00254 046366R ADB EXITA
0174 00255 002002 SZA ANY BAD TRACKS?
0175 00256 006021 SSB,RSS WAS CALL FROM JOBPR?
0176 00257 026152R JMP EXIT -NO, SKIP BAD TRACK MESSAGE
0177 00260 016002X JSB CNDEC CONVERT BAD TRACKS TO ASCII
0178 00261 072310R STA BADMS+3
0179 00262 062305R LDA BADMS
0180 00263 064056 LDB .3
0181 00264 026161R JMP XTMSG GO PRINT BAD TRACK MSG & EXIT
0182*
0183 00265 066311R TRAC2 LDB NO
0184 00266 062271R LDA NE
0185 00267 026240R JMP TRAC1 SET TO PRINT NEXT TRK = 'NONE'
0186*
0187 00270 000271R TRMSG DEF **1
0188 00271 047105 NE ASC 12,NEXT AVAIL TRACK =
00272 054124
00273 020101
00274 053101
00275 044514
00276 020124
00277 051101
00300 041513
00301 020075
00302 020040
00303 020040
00304 020040
0189 00305 000306R BADMS DEF **1
0190 00306 041101 ASC 3,BAD=
00307 042075
00310 020040
0191 00311 047117 NO ASC 1,NO
0192 00312 052122 TR ASC 1,TR
0193*
0194 00313 000000 GET NOP
0195 00314 066367R LDB BUFAD
0196 00315 004065 CLE,ERB
0197 00316 160001 LDA B,I
0198 00317 002041 SEZ,RSS
0199 00320 001727 ALF,ALF
0200 00321 010074 AND .377
0201 00322 005600 ELB
0202 00323 006004 INB
0203 00324 076367R STB BUFAD

```


0204	00325	126313R	JMP GET,I	
0205*				
0206	00326	000000	MESSG NOP	
0207	00327	072335R	STA MSGAD	SET MESSAGE ADDRESS
0208	00330	076336R	STB MSGLN	SET MESSAGE LENGTH
0209	00331	034261	ISZ OPFLG	LOCK OUT OPERATOR ATTENTION
0210	00332	016001X	JSB \$SYIO	
0211	00333	000002	DEC 2	FUNCTION = WRITE
0212	00334	000001	DEC 1	LOGICAL UNIT# 1 = SYSTEM TTY
0213	00335	000000	MSGAD NOP	
0214	00336	000000	MSGLN NOP	
0215	00337	000346R	DEF MSGXT	COMPLETION RETURN ADDRESS
0216	00340	060322	LDA SXSUS	
0217	00341	003000	CMA	
0218	00342	040254	ADA UMFWA	
0219	00343	002021	SSA,RSS	RETURN POINT IN USER AREA
0220	00344	026004X	JMP \$CIC3	-NO, RETURN TO CIC
0221	00345	026006X	JMP \$RTRN	-YES, RETURN TO USER
0222*				
0223	00346	002400	MSGXT CLA	
0224	00347	070261	STA OPFLG	ENABLE OPERATOR ATTENTION
0225	00350	016005X	JSB SAVES	SAVE REGS. AND SUSP. POINT
0226	00351	126326R	JMP MESSG,I	
0227*				
0228*	ROUTINE TO CHECK FOR VALID DIGIT			
0229*				
0230*	ON ENTRY: "A" = ASCII DIGIT			
0231*				
0232	00352	000000	CHKDG NOP	
0233	00353	066364R	LDB NB60	
0234	00354	044000	ADB A	
0235	00355	006020	SSB	
0236	00356	026157R	JMP ERMES	<60 IS ERROR
0237	00357	046365R	ADB NB12	
0238	00360	006021	SSB,RSS	
0239	00361	026157R	JMP ERMES	>72 IS ERROR
0240	00362	010070	AND M17	
0241	00363	126352R	JMP CHKDG,I	
0242*				
0243	00364	177720	NB60 OCT -60	
0244	00365	177766	NB12 OCT -12	
0245*				
0246	00366	000000	EXITA NOP	
0247	00367	000000	BUFA0 NOP	
0248	00370	000000	EQTAD NOP	
0249	00371	000000	SAVE NOP	
0250	00372	000000	CURNT NOP	
0251	00373	000000	LOOP NOP	
0252	00374	000054	COMMA OCT 54	
0253	00375	020060	ASC0 ASC 1, 0	
0254	00376	020104	ASCD ASC 1, D	
0255	00377	020122	ASCR ASC 1, R	
0256	00000		A EQU 0	
0257	00001		B EQU 1	
0258	00053		.. EQU 53B	
0259	00052		N1 EQU ..-1	

0260	00055	.2	EQU	..+2
0261	00056	.3	EQU	..+3
0262	00062	.7	EQU	..+7
0263	00070	M17	EQU	..+13
0264	00072	.77	EQU	..+15
0265	00074	.377	EQU	..+17
0266	00100	.	EQU	100B
0267	00117	EQTAB	EQU	..+15
0268	00120	EQT#	EQU	..+16
0269	00123	JBUF	EQU	..+19
0270	00154	DISCO	EQU	..+44
0271	00157	NXTTS	EQU	..+47
0272	00245	EXMOD	EQU	..+101
0273	00254	UMFWA	EQU	..+108
0274	00261	OPFLG	EQU	..+113
0275	00274	SMDBF	EQU	..+124
0276	00322	SXSUS	EQU	..+146
0277			END	

** NO ERRORS*

SCIC3	00005	00220					
SEX09	00006	00003					
SMDBF	00275	00009	00144				
SRTRN	00005	00137	00221				
SSYIO	00004	00210					
.	00266 00273	00267 00274	00268 00275	00269 00276	00270	00271	00272
..	00258 00263	00113 00264	00119 00265	00259	00260	00261	00262
.2	00260	00067					
.3	00261	00096	00180				
.377	00265 00200	00078	00098	00103	00147	00149	00152
.7	00262	00076					
.77	00264	00070					
A	00256	00069	00234				
ASC0	00253	00082	00087				
ASCD	00254	00085					
ASCR	00255	00091					
B	00257	00063	00065	00160	00169	00197	
BADMS	00189	00145	00166	00178	00179		
BLANK	00140	00024	00031				
BUFAD	00247	00008	00195	00203			
CHKDG	00232	00028	00035	00241			
CNDEC	00004	00059	00077	00158	00177		
CNOCT	00004	00071	00097	00104			
COMMA	00252	00022	00033				
CURNT	00250 00043	00012 00049	00029 00053	00037 00058	00039 00061	00040 00109	00042
D12	00138	00164					

D14	00139	00107					
DFRTN	00137	00167					
DISCO	00270	00151					
EQOUT	00124 00105	00060 00106	00072	00081	00086	00092	00100
EQT#	00268	00050	00055				
EQTAB	00267	00066					
EQTAD	00248 00101	00068	00073	00083	00088	00093	00094
ERMES	00118	00034	00057	00236	00239		
ERR	00136	00118					
EX00	00021	00026					
EX01	00027	00023					
EX05	00043	00032					
EX10	00048	00025	00045				
EX20	00052	00047	00111				
EXIT	00112	00121	00176				
EXITA	00246	00010	00116	00173			
EXMOD	00272	00112	00115				
GET	00194 00204	00013	00014	00017	00021	00027	00030
JBUF	00269	00006					
LOOP	00251	00052	00110				
M17	00263	00240					
MESSG	00206	00108	00120	00165	00226		
MSGAD	00213	00207					
MSGLN	00214	00208					
MSGXT	00223	00215					
N1	00259	00062					

NB12	00244	00237					
NB60	00243	00233					
NE	00188	00184					
NO	00191	00183					
NXTTS	00271	00146					
OPFLG	00274	00209	00224				
SAVE	00249	00016	00018	00036	00041		
SAVES	00005	00225					
SXSUS	00276	00216					
TR	00192	00019					
TRAC1	00161	00185					
TRAC2	00183	00156					
TRACK	00144	00020					
TRMSG	00187	00150	00154	00157	00161	00162	00163
UMFWA	00273	00218					
UPBLK	00141	00079					
UPS	00142	00099					
XTMSG	00120	00181					

PAGE 0001

0001

ASMB,L,X,C,N,R,B

LOAD AND EXEC PROG (\$EX10)

** NO ERRORS*

0001		ASMB,L,X,C,N,R,B	LOAD AND EXEC PROG (SEX10)
0002	00000	NAM SEX10,1	
0003		ENT SEX10	
0004		EXT \$WAIT,\$MOVE,\$IDL1,\$TYPE	
0005		EXT \$SYIO,\$OPER,\$DISC,ERR05	
0006		EXT \$BLOP	
0007		EXT \$IRT	
0008	00000 036006X	SEX10 ISZ \$OPER	
0009	00001 060141	LDA EXPG	
0010	00002 002003	SZA,RSS	REQ. TO LOAD JOBPR?
0011	00003 026157R	JMP JLOD	-YES
0012	00004 060135	LDA AEPF	
0013	00005 002003	SZA,RSS	IF AEPF NON=ZERO, SET EXPG+9 TO I
0014	00006 026012R	JMP EX20	
0015	00007 070152	STA EXPG+9	
0016	00010 002400	CLA	
0017	00011 070135	STA AEPF	CLEAR AEPF
0018	00012 060224	EX20 LDA RQCNT	
0019	00013 040050	ADA ..=3	
0020	00014 003021	CMA,\$SA,RSS	ANY PARAMETERS TO PASS?
0021	00015 026031R	JMP NOPAR	-NO
0022*			
0023	00016 072154R	STA PARCT	SET PARAMETER COUNT
0024	00017 066153R	LOB DEFR	
0025	00020 062314R	LDA DFRON	
0026	00021 072155R	STA CHR12	
0027	00022 160001	LDA B,I	
0028	00023 160000	LDA A,I	
0029	00024 172155R	STA CHR12,I	
0030	00025 036155R	ISZ CHR12	
0031	00026 006004	INB	
0032	00027 036154R	ISZ PARCT	
0033	00030 026022R	JMP *-6	
0034*			
0035	00031 060254	NOPAR LDA UMFWA	
0036	00032 003004	CMA,INA	GET NEG OF UMFWA
0037	00033 040146	ADA EXPG+5	ADD TO CORE ADDRESS FOR REQ FILE
0038	00034 002020	SSA	NOT BELOW START OF USER AREA IF+
0039	00035 026226R	JMP ERRTX	ABORT JOB: PROGRAM CAN NOT RUN
0040	00036 060147	LDA EXPG+6	
0041	00037 003004	CMA,INA	GET NEG OF REQUEST LWA
0042	00040 002004	INA	
0043	00041 040100	ADA UMLWA	ADD LWA OF USER
0044	00042 002020	SSA	OK IF +
0045	00043 026226R	JMP ERRTX	ABORT JOB: PROGRAM CAN NOT RUN
0046	00044 060255	LDA UBFWA	
0047	00045 003004	CMA,INA	GET NEG OF USER BASE AREA FWA
0048	00046 040150	ADA EXPG+7	ADD FWA OF LINKS
0049	00047 002020	SSA	OK IF +
0050	00050 026226R	JMP ERRTX	ABORT JOB: PROGRAM CAN NOT RUN
0051	00051 060151	LDA EXPG+8	
0052	00052 003004	CMA,INA	GET NEG OF USER BASE AREA LWA
0053	00053 002004	INA	
0054	00054 040256	ADA UBLWA	ADD LWA OF LINKS
0055	00055 002020	SSA	OK IF +
0056	00056 026226R	JMP ERRTX	ABORT JOB: PROGRAM CAN NOT RUN

```

0057*          OK: NO REQUEST OF FWA OR LWA OUTSIDE
0058*          BOUNDS OF CURRENT SYSTEM FWA'S OR LWA'S
0059 00057 060146      LDA EXPG+5
0060 00060 070167      STA DBUFR+1      STORE BUFFER ADDRESS
0061 00061 060144      LDA EXPG+3
0062 00062 070166      STA DBUFR      STORE TRACK#/SECTOR#
0063 00063 060146      LDA EXPG+5
0064 00064 003004      CMA,INA
0065 00065 040147      ADA EXPG+6
0066 00066 070170      STA DBUFR+2      STORE # OF WORDS
0067 00067 002400      CLA
0068 00070 070262      STA SWAP      CLEAR JOB PROCESSOR IN FLAG
0069 00071 064326      LDB LSTCH      REQUEST TO USER DISC IF SET
0070 00072 006002      SZB      SKIP IF SYSTEM DISC REQUEST
0071 00073 034162      ISZ CRFLG
0072 00074 016275R     JSB DISCX
0073*          FORM PARAMETERS TO READ IN BASE PAGE
0074 00075 060174      LDA TSONE      START T/S FOR BASE PAGE READ
0075 00076 070166      STA DBUFR
0076 00077 060150      LDA EXPG+7
0077 00100 003004      CMA,INA
0078 00101 040151      ADA EXPG+8
0079 00102 002003      SZA,RSS
0080 00103 026113R     JMP EX50      NO BASE PAGE TO READ IN
0081 00104 070170      STA DBUFR+2      # OF WORDS
0082 00105 060150      LDA EXPG+7
0083 00106 070167      STA DBUFR+1      CORE ADDRESS
0084 00107 064326      LDB LSTCH      SET IF TO USER DISC
0085 00110 006002      SZB
0086 00111 034162      ISZ CRFLG
0087 00112 016275R     JSB DISCX
0088*
0089 00113 060106      EX50 LDA CLEX
0090 00114 002020      SSA
0091 00115 026131R     JMP EX60      PROGRAM EXECUTING?
0092 00116 060120      LDA EQT#      -NO, DON'T CHECK I/O
0093 00117 003004      CMA,INA
0094 00120 072156R     STA EQCNT
0095 00121 064117      LDB EQTAB
0096 00122 044056      ADB ..+3
0097 00123 160001      LOOP LDA B,I      GET STATUS WORD
0098 00124 002020      SSA
0099 00125 026144R     JMP DBUSY      -YES, WAIT FOR COMPLETION
0100 00126 044066      ADB .17
0101 00127 036156R     ISZ EQCNT
0102 00130 026123R     JMP LOOP      GO CHECK NEXT DEVICE
0103*
0104 00131 002400      EX60 CLA
0105 00132 072006X     STA $OPER
0106 00133 070260      STA OPATN
0107 00134 060245      LDA EXMOD
0108 00135 050041      CPA ..-10
0109 00136 003004      CMA,INA
0110 00137 070245      STA EXMOD
0111 00140 060152      LDA EXPG+9
0112 00141 070137      STA XIRT      SET UP TRANSFER ADDR FOR SIRT

```


0113	00142	066314R	LDB	DFRON	
0114	00143	026012X	JMP	\$IRT	RESTORE INTERRUPT SYS, MEM PROT
0115*					
0116	00144	074206	DBUSY	STB	EQT4
0117	00145	044052	ADB	..-1	
0118	00146	160001	LDA	B,I	
0119	00147	010072	AND	M77	GET I/O CHNL#
0120	00150	066152R	LDB	XRTN5	GET \$EX05
0121	00151	026011X	JMP	\$BLOP	GO WAIT FOR I/O TO COMPLETE
0122*					
0123	00152	000113R	XRTN5	DEF	EX50
0124	00153	000230	DEFR	DEF	RQP3
0125	00154	000000	PARCT	NOP	
0126	00155	000000	CHR12	NOP	
0127	00156	000000	EQCNT	NOP	
0128*					
0129	00157	002404	JL0D	CLA,INA	
0130	00160	070262	STA	SWAP	
0131	00161	062222R	LDA	DFJOB	
0132	00162	064050	LDB	N3	
0133	00163	016002X	JSB	\$MOVE	MOVE "JOBPR" TO EXPG BFR
0134	00164	000141	DEF	EXPG	
0135	00165	060263	LDA	JOBPM	SETUP TO READ IN JOB PROCESSOR
0136	00166	070166	STA	DBUFR	
0137	00167	060254	LDA	UMFWA	
0138	00170	070167	STA	DBUFR+1	SET CORE ADDRESS
0139	00171	060264	LDA	JOBPM+1	
0140	00172	070170	STA	DBUFR+2	SET NUMBER OF WORDS
0141	00173	016275R	JSB	DISCX	READ MAIN OF JOBPR
0142	00174	060174	LDA	TSONE	START T/S FOR LINKS
0143	00175	070166	STA	DBUFR	
0144	00176	060255	LDA	UBFWA	
0145	00177	070167	STA	DBUFR+1	SET CORE ADDRESS
0146	00200	060265	LDA	JOBPB	SETUP TO READ IN JOB PROCESSOR
0147	00201	070170	STA	DBUFR+2	SET NUMBER OF WORDS
0148	00202	016275R	JSB	DISCX	READ LINKS OF JOBPR
0149	00203	060245	LDA	EXMOD	
0150	00204	050041	CPA	..-10	
0151	00205	003004	CMA,INA		
0152	00206	070245	STA	EXMOD	
0153	00207	060254	LDA	UMFWA	SET UP TRANSFER ADDR FOR \$IRT
0154	00210	070137	STA	XIRT	
0155	00211	002400	CLA		
0156	00212	070273	STA	\$IDCD	
0157	00213	070261	STA	OPFLG	
0158	00214	070260	STA	OPATN	
0159	00215	072006X	STA	\$OPER	
0160	00216	070327	STA	FLFLG	
0161	00217	064332	LDB	CHARC	
0162	00220	070332	STA	CHARC	CLEAR CHARACTER COUNT
0163	00221	026012X	JMP	\$IRT	RESTORE INTERRUPT SYS, MEM PROT
0164*					& TRANSFER.
0165*					
0166	00222	000223R	DFJOB	DEF	**+1
0167	00223	045117	ASC	3,JOBPR	
	00224	041120			

00225	051040		
0168*			
0169	00226	034261	ERRTX ISZ OPFLG
0170	00227	016005X	JSB \$SYIO
0171	00230	000002	DEC 2
0172	00231	000001	DEC 1
0173	00232	000316R	DEF MESER
0174	00233	177746	DEC -26
0175	00234	000236R	DEF **2
0176	00235	026001X	JMP \$WAIT
0177	00236	002400	CLA
0178	00237	070261	STA OPFLG
0179	00240	060106	LDA CLEX
0180	00241	002020	SSA
0181	00242	026245R	JMP ER15
0182	00243	032334R	IOR SIGN
0183	00244	070106	STA CLEX
0184	00245	002400	CLA
0185	00246	066335R	LDB N11
0186	00247	016002X	JSB \$MOVE
0187	00250	000141	DEF EXPG
0188	00251	062333R	LDA JO
0189	00252	070273	STA \$IDCD
0190	00253	060245	LDA EXMOD
0191	00254	050041	CPA ...-10
0192	00255	003004	CMA, INA
0193	00256	070245	STA EXMOD
0194	00257	006400	CLB
0195	00260	060262	LDA SWAP
0196	00261	074262	STB SWAP
0197	00262	074113	STB DUMPS
0198	00263	002021	SSA, RSS
0199	00264	026271R	JMP ER20
0200	00265	002400	CLA
0201	00266	070273	STA \$IDCD
0202	00267	007400	CCB
0203	00270	026004X	JMP \$TYPE
0204	00271	060112	LDA SYSTY
0205	00272	050111	CPA BATCH
0206	00273	026265R	JMP ER16
0207	00274	026003X	JMP \$IDL1
0208*			
0209	00275	000000	DISCX NOP
0210	00276	060166	LDA DBUFR
0211	00277	001727	ALF, ALF
0212	00300	010074	AND M377
0213	00301	070001	STA B
0214	00302	060154	LDA DISCO
0215	00303	010074	AND M377
0216	00304	003004	CMA, INA
0217	00305	044000	ADB A
0218	00306	006021	SSB, RSS
0219	00307	026010X	JMP ERR05
0220	00310	062315R	LDA DBFR
0221	00311	006404	CLB, INB
0222	00312	016007X	JSB \$DISC

CHECK IF PROGRAM EXECUTING

SET SYSTEM TO LOOK FOR :JO/ :EJ

FREE EX MOD AREA

CLEAR PROGRAM DUMP FLAG

GET START TRK/SECT
 ROTATE TRK# TO LO 8 BITS
 AND ISOLATE

GET DISC SIZE
 AND ISOLATE

IS TRACK# > DISC SIZE?
 -YES
 GET PARAM. BFR ADDRS.
 B = 1 FOR READ

```

0223 00313 126275R      JMP DISCX,I
0224*
0225 00314 000126  DFRON DEF RONBF
0226 00315 000166  DBFR  DEF DBUFR
0227 00316 044514  MESER ASC 13,ILLEGAL PROGRAM RUN LIMITS
      00317 046105
      00320 043501
      00321 046040
      00322 050122
      00323 047507
      00324 051101
      00325 046440
      00326 051125
      00327 047040
      00330 046111
      00331 046511
      00332 052123
0228 00333 045117  JO      ASC 1,JO
0229 00334 100000  SIGN   OCT 100000
0230 00335 177765  N11     DEC -11
0231*
0232 00000      A      EQU 0
0233 00001      B      EQU 1
0234*
0235 00053      ..     EQU 538
0236 00050      N3     EQU ..-3
0237 00066      .17    EQU ..+11
0238 00072      M77    EQU ..+15
0239 00074      M377   EQU ..+17
0240*
0241 00100      .      EQU 1008
0242 00100      UMLWA  EQU .+0
0243 00106      CLEX   EQU .+6
0244 00111      BATCH EQU .+9
0245 00112      SYSTY  EQU .+10
0246 00113      DUMPS  EQU .+11
0247 00117      EQTAB  EQU .+15
0248 00120      EQT#   EQU .+16
0249 00126      RONBF  EQU .+22
0250 00135      AEPF   EQU RONBF+7
0251 00137      XIRT   EQU RONBF+9
0252 00141      EXPG   EQU .+33
0253 00154      DISCO  EQU .+44
0254 00162      CRFLG  EQU .+50
0255 00166      DBUFR  EQU .+54
0256 00174      TSONE  EQU .+60
0257 00206      EQT4   EQU .+70
0258 00224      RQCNT  EQU .+84
0259 00230      RQP3   EQU .+88
0260 00245      EXMOD  EQU .+101
0261 00254      UMFWA  EQU .+108
0262 00255      UBFWA  EQU .+109
0263 00256      UBLWA  EQU .+110
0264 00260      OPATN  EQU .+112
0265 00261      OPFLG  EQU .+113
0266 00262      SWAP   EQU .+114

```

JOB PROCESSOR NOT IN/IN FLAG

0267	00263	JOBPM EQU	+.115
0268	00265	JOBPB EQU	+.117
0269	00273	\$IDCD EQU	+.123
0270	00326	LSTCH EQU	+.150
0271	00327	FLFLG EQU	+.151
0272	00332	CHARC EQU	+.154
0273		END	

** NO ERRORS*

\$BLOP	000006	00121					
\$DISC	000005	00222					
\$EX10	000008	00003					
\$IDCD	00269	00156	00189	00201			
\$IDL1	000004	00207					
\$IRT	000007	00114	00163				
\$MOVE	000004	00133	00186				
\$OPER	000005	00008	00105	00159			
\$SYIO	000005	00170					
\$TYPE	000004	00203					
\$WAIT	000004	00176					
.	00241	00242	00243	00244	00245	00246	00247
	00248	00249	00252	00253	00254	00255	00256
	00257	00258	00259	00260	00261	00262	00263
	00264	00265	00266	00267	00268	00269	00270
	00271	00272					
..	00235	00019	00096	00108	00117	00150	00191
	00236	00237	00238	00239			
.17	00237	00100					
A	00232	00028	00217				
AEPF	00250	00012	00017				
B	00233	00027	00097	00118	00213		
BATCH	00244	00205					
CHARC	00272	00161	00162				
CHR12	00126	00026	00029	00030			
CLEX	00243	00089	00179	00183			
CRFLG	00254	00071	00086				
DBFR	00226	00220					
DBUFR	00255	00060	00062	00066	00075	00081	00083
	00136	00138	00140	00143	00145	00147	00210
	00226						

DBUSY	00116	00099					
DEFR	00124	00024					
DFJOB	00166	00131					
DFRON	00225	00025	00113				
DISCO	00253	00214					
DISCX	00209	00072	00087	00141	00148	00223	
DUMPS	00246	00197					
EQCNT	00127	00094	00101				
EQT#	00248	00092					
EQT4	00257	00116					
EQTAB	00247	00095					
ER15	00184	00181					
ER16	00200	00206					
ER20	00204	00199					
ERR05	00005	00219					
ERRTX	00169	00039	00045	00050	00056		
EX20	00018	00014					
EX50	00089	00080	00123				
EX60	00104	00091					
EXMOD	00260	00107	00110	00149	00152	00190	00193
EXPG	00252	00009	00015	00037	00040	00048	00051
	00059	00061	00063	00065	00076	00078	00082
	00111	00134	00187				
FLFLG	00271	00160					
JL00	00129	00011					
JO	00228	00188					
JOBPB	00268	00146					
JOBPM	00267	00135	00139				
LOOP	00097	00102					

LSTCH	00270	00069	00084		
M377	00239	00212	00215		
M77	00238	00119			
MESER	00227	00173			
N11	00230	00185			
N3	00236	00132			
NOPAR	00035	00021			
OPATN	00264	00106	00158		
OPFLG	00265	00157	00169	00178	
PARCT	00125	00023	00032		
RONBF	00249	00225	00250	00251	
RQCNT	00258	00018			
RQP3	00259	00124			
SIGN	00229	00182			
SWAP	00266	00068	00130	00195	00196
SYSTY	00245	00204			
TSONE	00256	00074	00142		
UBFWA	00262	00046	00144		
UBLWA	00263	00054			
UMFWA	00261	00035	00137	00153	
UMLWA	00242	00043			
XIRT	00251	00112	00154		
XRTN5	00123	00120			

PAGE 0001

0001

ASMB,L,X,C,N,R,B

FILE NAME SEARCH ROUTINE (SEX11

** NO ERRORS*


```

0001          ASMB,L,X,C,N,R,B      FILE NAME SEARCH ROUTINE (SEX11
0002 00000          NAM $EX11,1
0003          ENT $EX11
0004          EXT $MOVE,$SRCH
0005*          $EX11 FINDS USER SPECIFIED FILE NAME. IF FILE NAME IN RONBF,
0006*          THE ADDRESS IN RONBF IS RETURNED. IF FILE NAME NOT IN RONBF, A
0007*          SEARCH IS MADE OF THE USER DIRECTORY. IF NOT FOUND, (B) IS SET
0008*          TO 0 AND RETURN TO POINT OF CALL. IF FOUND, THE DIRECTORY ENTRY
0009*          IS PLACED IN FIRST 5 WORDS OF RONBF AFTER FIRST 5 WORDS HAS BEEN
0010*          MOVED DOWN BY 5 WORDS.
0011*
0012 00000 060275 $EX11 LDA $MDBF+1
0013 00001 072021R      STA EXITA      SAVE RETURN POINT
0014 00002 064274      LDB $MDBF      GET FILE NAME BFR ADDR9
0015 00003 016002X      JSB $SRCH      LOOK FOR FILE-NAME IN USER DRCTR
0016 00004 026014R      JMP FOUND      -FOUND
0017*
0018 00005 006401      CLB,RSS      -NO, SET B=0 TO INDICATE
0019 00006 066017R RETNX LDB DEFRN      SET POINTER TO FILE ENTRY
0020 00007 060245      LDA EXMOD
0021 00010 052022R      CPA N11
0022 00011 003004      CMA,INA
0023 00012 070245      STA EXMOD
0024 00013 126021R      JMP EXITA,I
0025*
0026 00014 060001 FOUND LDA B
0027 00015 064046      LDB ..=5
0028 00016 016001X      JSB $MOVE      MOVE FILE-NAME TO 1ST RONBF ENTR
0029 00017 000126 DEFRN DEF RONBF
0030 00020 026006R      JMP RETNX
0031 00021 000000 EXITA NOP
0032 00022 177765 N11 DEC =11
0033*
0034 00000          A      EQU 0
0035 00001          B      EQU 1
0036 00053          ..     EQU 53B
0037*
0038 00100          .      EQU 100B
0039 00126          RONBF EQU .+22
0040 00245          EXMOD EQU .+101
0041 00274          $MDBF EQU .+124
0042          END
** NO ERRORS*

```

SEX11	00012	00003		
\$MDBF	00041	00012	00014	
\$MOVE	00004	00028		
\$SRCH	00004	00015		
.	00038	00039	00040	00041
..	00036	00027		
*A	00034			
B	00035	00026		
DEFRN	00029	00019		
EXITA	00031	00013	00024	
EXMOD	00040	00020	00023	
FOUND	00026	00016		
N11	00032	00021		
RETNX	00019	00030		
RONBF	00039	00029		

PAGE 0001

0001

ASMB,L,X,C,N,R,B

SYSTEM STARTUP (SEX12)

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      SYSTEM STARTUP ($EX12)
0002 000000      NAM $EX12,1
0003          ENT $EX12
0004          EXT $TYPE,$DISC,$SYIO
0005          EXT $MOVE,$WAIT,$OPER
0006          EXT $SSTR
0007          EXT $BUF,$B1,$B2,$B3,$B31,$B64,$B65,$B66,$B127
0008*          $EX12 IS THE SYSTEM STARTUP ROUTINE.
0009*
0010 00000 036006X $EX12 ISZ $OPER
0011 00001 060116      LDA SECTR
0012 00002 003004      CMA,INA
0013 00003 070313      STA MSECT
0014 00004 060254      LDA UMFWA
0015 00005 102605      OTA 5B
0016 00006 003400      CCA
0017 00007 140121      ADA LUTAB,I      GET EQT# OF SYST. TTY
0018 00010 070001      STA B          *
0019 00011 001700      ALF          * MULTIPLY X 17
0020 00012 040001      ADA B          *
0021 00013 040117      ADA EQTAB
0022 00014 040056      ADA ..+3
0023 00015 070333      STA CHARC+1      SAVE TTY EQT4 ADDR8 FOR DISCM
0024 00016 040052      ADA ..-1
0025 00017 160000      LDA A,I          GET I/O CHNL# OF TTY
0026 00020 010072      AND M77
0027 00021 032223R      IOR STC
0028 00022 072007X      STA $SSTR      SAVE TTY STC,C FOR DISCM $CLER

0030 00023 062237R      LDA ASTRT      RESOLVE ADDRESS OF $SSTR
0031 00024 002001      RSS          IN DISCM
0032 00025 160000      LDA 0,I
0033 00026 001275      RAL,CLE,SLA,ERA
0034 00027 026025R      JMP *-2
0035 00030 002004      INA          INCREMENT ADDR TO $SSTR+1
0036 00031 064047      LOB .4      SET COUNTER TO CLEAR
0037 00032 076225R      STB EXXX      4 LOCATIONS
0038 00033 006400      CLB          CLEAR THE 4 LOCATIONS FOLLOWING
0039 00034 174000      STB 0,I      $SSTR IN DISCM
0040 00035 002004      INA
0041 00036 036225R      ISZ EXXX
0042 00037 026034R      JMP *-3

0044 00040 062224R      LDA HLT2
0045 00041 070002      STA 2B
0046 00042 002004      INA
0047 00043 070003      STA 3B
0048*
0049* RESOLVE ADDRESS OF $BUF
0050*
0051 00044 062067R      LDA $B
0052 00045 002001      RSS
0053 00046 160000      LDA 0,I
0054 00047 001275      RAL,CLE,SLA,ERA
0055 00050 026046R      JMP *-2
0056 00051 072067R      STA $B          $B NOW CONTAINS ADDRESS OF $BUF

```

0057	00052	060115	LDA SYSBF	READ SYSTEM BUFFER SECTOR
0058	00053	072226R	STA PARAM	
0059	00054	062067R	LDA \$B	CORE ADDRESS
0060	00055	072227R	STA PARAM+1	
0061	00056	062242R	LDA .128	# WORDS
0062	00057	072230R	STA PARAM+2	
0063	00060	016167R	JSB DISCX	READ DISC
0064	00061	062020X	LDA \$B127	* "SB" IF VALID SYS BUFF SECTOR
0065	00062	052232R	CPA \$B	
0066	00063	026132R	JMP EX10	YES
0067*			FORM NEW SYSTEM BUFFER SECTOR	
0068	00064	002400	CLA	CLEAR 129 WORDS
0069	00065	066245R	LDB N129	
0070	00066	016004X	JSB \$MOVE	
0071	00067	000010X \$B	DEF \$BUF	
0072	00070	060160	LDA SYNTS	BUILD NEW SYSTEM BUFFER SECTOR
0073	00071	072015X	STA \$B64	NEXT AVAIL T/S ON SYS DISC
0074	00072	060115	LDA SYSBF	T/S OF SYS BUF SECTOR
0075	00073	016174R	JSB \$SRDS	INTERROGATE SYS DISC FOR BAD TK
0076	00074	072016X	STA \$B65	
0077	00075	076017X	STB \$B66	
0078	00076	062232R	LDA \$B	
0079	00077	072020X	STA \$B127	INDICATE GOOD SYS BUF SECTOR
0080	00100	060176	LDA GNCOD	
0081	00101	072012X	STA \$B2	SET SYSTEM GEN. CODE
0082	00102	062234R	LDA D0	
0083	00103	072011X	STA \$B1	SET DOS-M LABEL IDENT
0084	00104	002400	CLA	
0085	00105	072010X	STA \$BUF	SET FOR UNLABELED
0086	00106	062235R	LDA AST	
0087	00107	072013X	STA \$B3	SET ASTERISK AS 1ST LABEL CHAR
0088	00110	062236R	LDA N31	*
0089	00111	072174R	STA \$SRDS	*
0090	00112	003400	CCA	* GENERATE
0091	00113	066067R	LDB \$B	*
0092	00114	120001	XOR B,I	* CHECKSUM
0093	00115	006004	INB	*
0094	00116	036174R	ISZ \$SRDS	*
0095	00117	026114R	JMP *-3	*
0096	00120	072014X	STA \$B31	SET CHECKSUM
0097	00121	060115	LDA SYSBF	T/S OF YSS BUF SECTOR
0098	00122	072226R	STA PARAM	
0099	00123	062067R	LDA \$B	CORE ADDRESS
0100	00124	072227R	STA PARAM+1	
0101	00125	062243R	LDA .129	# OF WORDS
0102	00126	072230R	STA PARAM+2	
0103	00127	062231R	LDA PARAX	ADDRESS OF PARAMETERS
0104	00130	064051	LDB .2	DISC WRITE
0105	00131	016002X	JSB \$DISC	
0106	00132	060200 EX10	LDA DISCL	= ZERO IIF USER NOT ON SYSTEM
0107	00133	002002	SZA	
0108	00134	026137R	JMP EX30	USER IS ON LSYSTEM DISC
0109	00135	062015X	LDA \$B64	
0110	00136	026141R	JMP EX35	
0111	00137	062015X EX30	LDA \$B64	
0112	00140	070157	STA UDNTS	

```

0113 00141 070160 EX35 STA SYNTS
0114 00142 066244R LDB N22
0115 00143 060103 LDA TBG
0116 00144 002003 SZA,RSS
0117 00145 076153R STB MESLN
0118 00146 034261 ISZ OPFLG
0119 00147 016003X JSB $SYIO
0120 00150 000002 DEC 2
0121 00151 000001 DEC 1
0122 00152 000247R DEF MES2
0123 00153 177746 MESLN DEC -26
0124 00154 000156R DEF ++2
0125 00155 026005X JMP $WAIT
0126 00156 002400 CLA
0127 00157 070245 STA EXMOD
0128 00160 072006X STA $OPER
0129 00161 070260 STA OPATN
0130 00162 070261 STA OPFLG
0131 00163 062233R LDA DATE
0132 00164 070273 STA $IDCD
0133 00165 007400 CCB
0134 00166 026001X JMP $TYPE
0135*
0136 00167 000000 DISCX NOP
0137 00170 062231R LDA PARAX
0138 00171 006404 CLB,INB
0139 00172 016002X JSB $DISC
0140 00173 126167R JMP DISCX,I
0141*
0142* ON ENTRY: A = START SEARCH T/S
0143*
0144 00174 000000 $SRDS NOP
0145 00175 072226R STA PARAM
0146 00176 001727 ALF,ALF
0147 00177 042241R ADA DM200
0148 00200 072225R STA EXXX
0149 00201 062226R SRDS1 LDA PARAM
0150 00202 042240R ADA B400
0151 00203 072226R STA PARAM
0152 00204 062067R LDA $B
0153 00205 072227R STA PARAM+1
0154 00206 060052 LDA .1
0155 00207 072230R STA PARAM+2
0156 00210 016167R JSB DISCX
0157 00211 036225R ISZ EXXX
0158 00212 026201R JMP SRDS1
0159 00213 002400 CLA
0160 00214 072010X STA $BUF
0161 00215 066246R LDB D203
0162 00216 060327 LDA TRAK#
0163 00217 003004 CMA,INA
0164 00220 044000 ADB A
0165 00221 060327 LDA TRAK#
0166 00222 126174R JMP $SRDS,I
0167*
0168*

```

FREE MODULE AREA

GO TO REQUEST INPUT

START T/S FOR BAD TK SEARCH

OF TRACKS TO SEARCH

CURRENT T/S TO SEARCH
READ INTO \$BUF

OF WORDS

LOOP TILL EXXX = 0

B = NEST SPARE TRACK
A = # BAD TRACKS
RETURN

```

0169 00223 103700 STC STC 0,C
0170 00224 102002 HLT2 HLT 2
0171*
0172 00225 000000 EXXX NOP
0173 00226 000000 PARAM BSS 3
0174 00231 000226R PARAX DEF PARAM
0175 00232 051502 SB ASC 1,SB
0176 00233 042101 DATE ASC 1,DA
0177 00234 042117 DO ASC 1,DO
0178 00235 025040 AST ASC 1,*
0179 00236 177741 N31 DEC -31
0180 00237 000007X ASTRT DEF $STRT
0181 00240 000400 B400 OCT 400
0182 00241 177470 DM200 DEC -200
0183 00242 000200 .128 DEC 128
0184 00243 000201 .129 DEC 129
0185 00244 177752 N22 DEC -22
0186 00245 177577 N129 DEC -129
0187 00246 000313 D203 DEC 203
0188 00247 044516 ME82 ASC 13,INPUT :DATE,XXXXXXXXXX,H,M

```

```

00250 050125
00251 052040
00252 035104
00253 040524
00254 042454
00255 054130
00256 054130
00257 054130
00260 054130
00261 054130
00262 026110
00263 026115

```

```

0189*
0190 00000 A EQU 0
0191 00001 B EQU 1
0192 00053 ., EQU 53B
0193 00052 .1 EQU .,-1
0194 00051 .2 EQU .,-2
0195 00047 .4 EQU .,-4
0196 00072 M77 EQU .,+15
0197 00100 . EQU 100B
0198 00103 TBG EQU .,+3
0199 00115 SYSBF EQU .,+13
0200 00116 SECTR EQU .,+14
0201 00117 EQTAB EQU .,+15
0202 00121 LUTAB EQU .,+17
0203 00157 UDNTS EQU .,+47
0204 00160 SYNTS EQU .,+48
0205 00176 GNCOD EQU .,+62
0206 00200 DISCL EQU .,+64
0207 00245 EXMOD EQU .,+101
0208 00254 UMFWA EQU .,+108
0209 00260 OPATN EQU .,+112
0210 00261 OPFLG EQU .,+113
0211 00273 $IDCD EQU .,+123
0212 00313 MSECT EQU .,+139

```

PAGE 0006 #01

0213 00327

0214 00332

0215

** NO ERRORS*

TRAK# EQU .+151 # OF BAD TRACKS FOUND

CHARC EQU .+154

END

\$B.	00071/02	00051/02	00056/02	00059/02	00091/02	00099/02	00152/02
\$B1	00007/02	00083/02					
\$B127	00007/02	00064/02	00079/02				
\$B2	00007/02	00081/02					
\$B3	00007/02	00087/02					
\$B31	00007/02	00096/02					
\$B64	00007/02	00073/02	00109/02	00111/02			
\$B65	00007/02	00076/02					
\$B66	00007/02	00077/02					
\$BUF	00007/02	00071/02	00085/02	00160/02			
\$DISC	00004/02	00105/02	00139/02				
\$EX12	00010/02	00003/02					
\$IOCD	00211/02	00132/02					
\$MOVE	00005/02	00070/02					
\$OPER	00005/02	00010/02	00128/02				
\$SRDS	00144/02	00075/02	00089/02	00094/02	00166/02		
\$STRT	00006/02	00028/02	00180/02				
\$SYIO	00004/02	00119/02					
\$TYPE	00004/02	00134/02					
\$WAIT	00005/02	00125/02					
.	00197/02	00198/02	00199/02	00200/02	00201/02	00202/02	00203/02
	00204/02	00205/02	00206/02	00207/02	00208/02	00209/02	00210/02
	00211/02	00212/02	00213/02	00214/02			
..	00192/02	00022/02	00024/02	00193/02	00194/02	00195/02	00196/02
.1	00193/02	00154/02					
.128	00183/02	00061/02					
.129	00184/02	00101/02					
.2	00194/02	00104/02					
.4	00195/02	00036/02					

A	00190/02 00025/02 00164/02
AST	00178/02 00086/02
ASTRT	00180/02 00030/02
B	00191/02 00018/02 00020/02 00092/02
B400	00181/02 00150/02
CHARC	00214/02 00023/02
D203	00187/02 00161/02
DATE	00176/02 00131/02
DISCL	00206/02 00106/02
DISCX	00136/02 00063/02 00140/02 00156/02
DM200	00182/02 00147/02
DO	00177/02 00082/02
EQTAB	00201/02 00021/02
EX10	00106/02 00066/02
EX30	00111/02 00108/02
EX35	00113/02 00110/02
EXMOD	00207/02 00127/02
EXXX	00172/02 00037/02 00041/02 00148/02 00157/02
GNCOD	00205/02 00080/02
HLT2	00170/02 00044/02
LUTAB	00202/02 00017/02
M77	00196/02 00026/02
MES2	00188/02 00122/02
MESLN	00123/02 00117/02
MSECT	00212/02 00013/02
N129	00186/02 00069/02
N22	00185/02 00114/02
N31	00179/02 00088/02

OPATN 00209/02 00129/02

OPFLG 00210/02 00118/02 00130/02

PARAM 00173/02 00058/02 00060/02 00062/02 00098/02 00100/02 00102/02
00145/02 00149/02 00151/02 00153/02 00155/02 00174/02

PARAX 00174/02 00103/02 00137/02

SB 00175/02 00065/02 00078/02

SECTR 00200/02 00011/02

SRDS1 00149/02 00158/02

STC 00169/02 00027/02

SYNTS 00204/02 00072/02 00113/02

SYSBF 00199/02 00057/02 00074/02 00097/02

TBG 00198/02 00115/02

TRAK# 00213/02 00162/02 00165/02

UDNTS 00203/02 00112/02

UMFWA 00208/02 00014/02

PAGE 0001

0001

ASMB,L,X,C,N,R,B

ERROR MESSAGE OUTPUT (\$EX13)

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      ERROR MESSAGE OUTPUT ($EX13)
0002 000000      NAM $EX13,1
0003          ENT $EX13
0004          EXT $IDL1,$SYIO,$JLOD,$ABRT
0005          EXT $MOVE,CNDEC
0006          EXT $WAIT,SETEQ,CNOCT
0007          EXT $CLER,$MDLD,DEF20
0008          EXT $RTRN,$AVES
0009          EXT $BUF
0010          EXT $IRT
0011          SUP

```

\$EX13 FORMATS AND OUTPUTS SYSTEM MESSAGES.
ON ENTRY: (B) CONTAINS ERROR CODE

		ERROR MNEM
0015*		
0016*	0 = OPERATION REJECTED	OR
0017*	1 = MEMORY PROTECT ERROR	MP
0018*	2 = REQUEST ERROR	RQ
0019*	3 = EXECUTION TIME EXCEEDED	TM
0020*	4 = I/O ERROR	IO
0021*	5 = ILLEGAL LOGICAL UNIT	LU
0022*	6 = LOGICAL UNIT UNASSIGNED	LN
0023*	7 = ILLEGAL BUFFER ADDRESS	IB
0024*	8 = CORE WRAP AROUND	CW
0025*	9 = ILLEGAL TRACK ADDRESS	IT
0026*	10 = FILE CANNOT BE FOUND	FI
0027*	11 = DEVICE IS DOWN	DD
0028*	12 = PARITY ERROR	PE
0029*	13 = BATCH INPUT DETECTED ':' CARD	IE

```

0031*
0032 00000 060203 $EX13 LDA EQT1
0033 00001 072126R STA SEQT      SAVE EQT1 ADDRESS
0034 00002 076017X STB $BUF      SAVE ERROR CODE
0035 00003 056132R CPB .12      DISC PARITY ERROR?
0036 00004 026045R JMP L0020      -YES, GIVE IT TO $EX20
0037 00005 002400 CLA
0038 00006 070126 STA RONBF
0039 00007 054057 CPB .4      I/O ERROR?
0040 00010 026135R JMP IERR      -YES
0041 00011 060274 LDA $MDBF      GET USER ERROR ADDRESS
0042 00012 016011X JSB CNOCT      AND CONVERT TO ASCII
0043 00013 072251R STA MSG+5
0044 00014 160001 LDA B,I
0045 00015 072247R STA MSG+3
0046 00016 006004 INB
0047 00017 160001 LDA B,I
0048 00020 072250R STA MSG+4
0049 00021 062125R LDA BLANK
0050 00022 072246R STA MSG+2
0051 00023 016012X JSB $CLER
0052 00024 066017X LDB $BUF
0053 00025 046106R ADB ETABL      GET ERROR CODE ADDRESS
0054 00026 160001 LDA B,I      SET A TO ASCII ERROR CODE
0055 00027 066125R LDB BLANK      SET B TO BLANK
0056 00030 016315R JSB $ERMG      GO TO FORMAT AND OUTPUT MESSAGE

```

0057	00031	066217X		LDB \$BUF	
0058	00032	054055		CPB .2	SELECTED
0059	00033	002701		CLA,CCE,RSS	RQ ERROR
0060	00034	002701		CLA,CCE,RSS	OTHER ERROR
0061	00035	050236		CPA NABRT	CHECK IF NO-ABORT OPTION
0062	00036	026052R		JMP ER10	
0063	00037	016273R		JSB XCLR	
0064	00040	072273R	EXIT2	STA XCLR	SAVE A REG TEMPORARILY
0065	00041	060225		LDA RQRTN	SET UP RETURN ADDR FOR \$IRT
0066	00042	070137		STA XIRT	
0067	00043	062273R		LDA XCLR	RESTORE A REG
0068	00044	026020X		JMP \$IRT	
0069*					
0070	00045	062014X	LOD20	LDA DEF20	
0071	00046	070305		STA TEMP	
0072	00047	062133R		LDA .20	
0073	00050	016273R		JSB XCLR	
0074	00051	026013X		JMP \$MDLD	
0075*					
0076	00052	060106	ER10	LDA CLEX	CHECK IF PROGRAM EXECUTING
0077	00053	001225		RAL,ERA	TURN OFF EXECUTION CLOCK
0078	00054	070106		STA CLEX	
0079	00055	060113		LDA DUMPS	CHECK IF ABORT DUMP DESIRED
0080	00056	002020		SSA	
0081	00057	026302R		JMP ABRT	YES
0082	00060	060323		LDA EFMP	
0083	00061	002002		SZA	EFMP IN?
0084	00062	114000		JSB A,I	-YES, DO ITS ERROR ROUTINE
0085	00063	016273R		JSB XCLR	RELEASE EXEC OVERLAY AREA
0086	00064	002400		CLA	
0087	00065	070113		STA DUMPS	CLEAR PROGRAM DUMP FLAG
0088	00066	066134R		LDB N11	
0089	00067	016005X		JSB \$MOVE	
0090	00070	000141		DEF EXPG	
0091	00071	066017X		LDB \$BUF	BATCH INPUT ERROR?
0092	00072	056131R		CPB .13	-YES, GO LOAD JOBPR
0093	00073	026003X		JMP \$JLOD	
0094	00074	064262		LDB SWAP	CLEAR JOBPR 'IN' FLAG
0095	00075	070262		STA SWAP	
0096	00076	002404		CLA,INA	
0097	00077	006020		SSB	;TYPE ENTERED UNDER OP. ATTN.?
0098	00100	070111		STA BATCH	-YES, SET SYST. TTY AS BATCH
0099	00101	050111		CPA BATCH	BATCH DEVICE = SYST. TTY?
0100	00102	002401		CLA,RSS	-YES, DON'T REQUIRE ;JOB INPUT
0101	00103	062113R		LDA JO	-NO, SET TO LOOK FOR ;JOB
0102	00104	070273		STA \$IDCD	
0103	00105	026001X		JMP \$IDL1	GO TO SYST. BATCH INPUT ROUTINE
0104*					
0105	00106	000107R	ETABL	DEF **+1	
0106	00107	047522		ASC 1,OR	0=OPERATION REJECTED
0107	00110	046520		ASC 1,MP	1=MEMORY PROTECT ERROR
0108	00111	051121		ASC 1,RQ	2=REQUEST ERROR
0109	00112	052115		ASC 1,TM	3=MAX. EXECUTION TIME EXCEEDED
0110	00113	045117	JO	ASC 1,JO	(4 = I/O ERROR)
0111	00114	046125		ASC 1,LU	5=ILLEGAL LOGIVAL UBOT
0112	00115	046116		ASC 1,LN	6=LOGICAL UNIT UNASSIGNED

0113	00116	044502		ASC 1,IB	7=ILLEGAL BUFFER ADDRESS
0114	00117	041527		ASC 1,CW	8=CORE WRAP AROUND
0115	00120	044524		ASC 1,IT	9=ILLEGAL TRACK ADDRESS
0116	00121	043111		ASC 1,FI	10=FILE CANNOT BE FOUND
0117	00122	040502	AB	ASC 1,AB	(11 UNASSIGNED)
0118	00123	051124		ASC 1,RT	(12 = DISC PARITY ERROR)
0119	00124	044505		ASC 1,IE	13=BATCH INPUT ERROR
0120	00125	020040	BLANK	ASC 1,	
0121	00126	000000	SEQT	NOP	
0122	00127	040000	MASK8	OCT 40000	
0123	00130	000031	DISC	OCT 31	
0124	00131	000015	.13	DEC 13	
0125	00132	000014	.12	DEC 12	
0126	00133	000024	.20	DEC 20	
0127	00134	177765	N11	DEC -11	

0128*

0129*

0130* <IERR> IS ENTERED WHEN A DEVICE IS UNAVAILABLE FOR INITIATION
 0131* OF AN OPERATION OR WHEN AN ERROR IS DETECTED AT THE END OF AN
 0132* OPERATION. THE DIAGNOSTIC IS PRINTED ON THE SYSTEM TELETYPE IN
 0133* THE FOLLOWING FORMAT:

0134*

0135*

I/O ERR MN EGT NN

0136*

0137*

WHERE

0138*

NN IS THE EGT ENTRY # OF THE DEVICE

0139*

MN IS THE MNEMONIC DESCRIBING THE CONDITION:

0140*

NR FOR DEVICE NOT READY

0141*

ET FOR END OF TAPE OR TAPE SUPPLY LOW

0142*

PE FOR TRANSMISSION PARITY ERROR

0143*

0144 00135 062270R IERR LDA ERTBL+1

0145 00136 072243R STA IOMSG+4

0146 00137 160206 LDA EGT4,I

0147 00140 001727 ALF,ALF

0148 00141 010072 AND M77

ISOLATE EQPMNT TYPE CODE

0149 00142 066261R LDB DEFUD

0150 00143 052130R CPA DISC

DEVICE = DISC?

0151 00144 026175R JMP IER05

-YES, DON'T SET DOWN!

0152 00145 002002 SZA

0153 00146 050060 CPA ..+5

DEVICE = SYSTEM TTY?

0154 00147 026153R JMP IER02

-YES, DON'T SET DOWN

0155 00150 160206 LDA EGT4,I

SET AV FIELD TO 1 TO MEAN

0156 00151 032127R IOR MASK8

0157 00152 170206 STA EGT4,I

0158*

0159 00153 060275 IER02 LDA \$MDF+1

0160 00154 042267R ADA ERTBL

INDEX TO I/O ERROR CODE

0161 00155 160000 LDA A,I

0162 00156 072243R STA IOMSG+4

AND SET IN MESSAGE

0163 00157 001727 ALF,ALF

0164 00160 010262 AND SWAP

0165 00161 000010 SLA

'ET' ERROR WITH JOBPR IN?

0166 00162 026217R JMP IER10

-YES, SKIP MESSAGE

0167 00163 002704 CLA,CCE,INA

0168 00164 064117 LDB EQTAB

*

0169	00165	054203	CPB	EQT1	* COMPUTE
0170	00166	026172R	JMP	++4	* EQUIPMENT
0171	00167	002004	INA		* TABLE#
0172	00170	044066	ADB	.17	*
0173	00171	026165R	JMP	--4	*
0174	00172	016006X	JSH	CNDEC	
0175	00173	072257R	STA	DEFEQ+4	
0176	00174	066253R	LDB	DEFEQ	
0177	00175	060001	IER05	LDA	B
0178	00176	064046	LDB	..=5	
0179	00177	016005X	JSH	SMOVE	MOVE APPROPRIATE MESSAGE
0180	00200	000244R	DEF	MSG	TO OUTPUT BUFFER
0181	00201	034261	ISZ	OPFLG	
0182	00202	016002X	JSH	SSYIO	
0183	00203	000002	DEC	2	
0184	00204	000001	DEC	1	
0185	00205	000237R	DEF	IOMSG	
0186	00206	177754	DEC	=20	
0187	00207	000212R	DEF	++3	
0188	00210	016335R	JSH	WHERE	CHECK IF I/O W/O WAIT RETURN
0189	00211	026007X	JMP	\$WAIT	SAVE REGS. AND SUSP. ADRS.
0190	00212	016016X	JSH	SAVES	
0191	00213	002400	CLA		
0192	00214	070261	STA	OPFLG	
0193	00215	062126R	LDA	SEQT	
0194	00216	016010X	JSH	SETEQ	
0195	00217	016273R	IER10	JSH	XCLR
0196	00220	016335R	JSH	WHERE	CHECK IF I/O W/O WAIT RETURN
0197	00221	160211	LDA	EQT7,I	IF CALL CAUSING ERROR WAS FROM T
0198	00222	003000	CMA		SYSTEM, FORCE KEYBOARD MODE AN
0199	00223	040254	ADA	UMFWA	RETURN TO INPUT CORRECT DIRECT
0200	00224	002021	SSA	RSS	
0201	00225	026231R	JMP	SYSRT	(SYSTEM RETURN)
0202	00226	160206	LDA	EQT4,I	
0203	00227	164220	LDB	EQT14,I	SETTRANSMISSION LOG IN B.
0204	00230	026040R	JMP	EXIT2	
0205*					
0206	00231	002404	SYSRT	CLA,INA	
0207	00232	070111	STA	BATCH	
0208	00233	062236R	LDA	GO	FORCE A :GO
0209	00234	070273	STA	SIDCD	
0210	00235	026001X	JMP	SIDL1	
0211*					
0212	00236	043517	GO	ASC	1,GO
0213	00237	044457	IOMSG	ASC	4,I/O ERR
0214	00243	000000	NOP		
0215	00244	020040	MSG	ASC	7,
0216	00253	000254R	DEFEQ	DEF	++1
0217	00254	020105	ASC	3, EQT#	
0218	00257	000000	NOP		
0219	00260	020040	ASC	1,	
0220	00261	000262R	DEFUD	DEF	++1
0221	00262	020125	ASC	5, USER DISK	
0222	00267	000267R	ERTBL	DEF	*
0223	00270	047122	ASC	1,NR	-NOT READY-
0224	00271	042524	ASC	1,ET	-END OF TAPE-


```

0225 00272 050105      ASC 1,PE      -TRANSMISSION PARITY ERROR-
0226*
0227 00273 000000      XCLR  NOP
0228 00274 064245      LDB EXMOD
0229 00275 056301R     CPB N13
0230 00276 007004      CMB,INB
0231 00277 074245      STB EXMOD
0232 00300 126273R     JMP XCLR,I
0233*
0234 00301 177763      N13  DEC -13
0235*
0236*      ABRT PRINTS PROGRAM NAME AND ABORT MESSAGE
0237*
0238 00302 062122R ABRT  LDA AB          ASC -AB-
0239 00303 066123R     LDB AB+1        ASCII 'RT'
0240 00304 016315R     JSB $ERMG       CALL MESSAGE FRRMAT AND OUTPUT RO
0241 00305 016273R     JSB XCLR
0242 00306 002700      CLA,CCE
0243 00307 066017X     LDB $BUF
0244 00310 056131R     CPB .13        BATCH INPUT ERROR?
0245 00311 002001      RSS
0246 00312 070332      STA CHARC       -NO, CLEAR BATCH CHAR. COUNT
0247 00313 001500      ERA            SET BIT 15 FOR ADUMP
0248 00314 026004X     JMP $ABRT
0249*
0250*
0251*      THIS ROUTINE FORMATS A DIAGNOSTIC MESSAGE OF FORM
0252*
0253*      AABBB -PADDR-
0254*
0255*      WHERE AABBB IS ASCII A AND REGISTER CONTENTS
0256*
0257*      CALLING SEQUENCE:
0258*
0259*      LDA ASCII A CHARS
0260*      LDB ASCII B CHARS
0261*      JSB $ERMG
0262*
0263 00315 000000      $ERMG NOP
0264 00316 072244R     STA MSG          STORE ASCII A AND
0265 00317 076245R     STB MSG+1        B INTO BUFFER
0266 00320 034261      ISZ OPFLG
0267 00321 016002X     JSB $SYIO
0268 00322 000002      DEC 2
0269 00323 000001      DEC 1
0270 00324 000244R     DEF MSG
0271 00325 177762      DEC -14
0272 00326 000330R     DEF +2
0273 00327 026007X     JMP $WAIT
0274 00330 002400      CLA
0275 00331 070261      STA OPFLG
0276 00332 062126R     LDA SEQT
0277 00333 016010X     JSB $ESEQ
0278 00334 126315R     JMP $ERMG,I    RETURN TO CALL
0279*
0280 00335 000000      WHERE NOP

```

0281	00336	062126R	LDA SEQT	GET SAVED EQT1 ADDRESS
0282	00337	040063	ADA ..+8	INCREMENT TO EQT9
0283	00340	160000	LDA A,I	
0284	00341	001222	RAL,RAL	
0285	00342	002021	SSA,RSS	I/O WITHOUT WAIT
0286	00343	126335R	JMP WHERE,I	-NO, TAKE NORMAL RETURN
0287	00344	060322	LDA SX3US	
0288	00345	003000	CMA	
0289	00346	040254	ADA UMFWA	
0290	00347	002021	SSA,RSS	RETURN ADDRESS IN SYSTEM AREA?
0291	00350	026007X	JMP \$WAIT	
0292	00351	026015X	JMP \$RTRN	-NO, RETURN TO USER
0293*				
0294	00000	A	EQU 0	
0295	00001	B	EQU 1	
0296	00053	..	EQU 53B	
0297	00055	.2	EQU ..+2	
0298	00057	.4	EQU ..+4	
0299	00066	.17	EQU ..+11	
0300	00072	M77	EQU ..+15	
0301	00100	.	EQU 100B	
0302	00106	CLEX	EQU ..+6	
0303	00111	BATCH	EQU ..+9	
0304	00113	DUMPS	EQU ..+11	
0305	00117	EQTAB	EQU ..+15	
0306	00126	RONBF	EQU ..+22	
0307	00137	XIRT	EQU RONBF+9	
0308	00141	EXPG	EQU ..+33	
0309	00203	EQT1	EQU ..+67	
0310	00206	EQT4	EQU ..+70	
0311	00211	EQT7	EQU ..+73	
0312	00220	EQT14	EQU ..+80	
0313	00225	RQRTN	EQU ..+85	
0314	00236	NABRT	EQU ..+94	
0315	00245	EXMOD	EQU ..+101	
0316	00254	UMFWA	EQU ..+108	
0317	00261	OPFLG	EQU ..+113	
0318	00262	SWAP	EQU ..+114	
0319	00273	\$IDCD	EQU ..+123	
0320	00274	\$MDBF	EQU ..+124	
0321	00305	TEMP0	EQU ..+205B	
0322	00305	TEMP	EQU TEMP0	
0323	00322	SX3US	EQU ..+146	
0324	00323	EFMP	EQU ..+147	
0325	00332	CHARC	EQU ..+154	
0326			END	

** NO ERRORS*

\$ABRT	00004	00248					
\$BUF	00009	00034	00052	00057	00091	00243	
\$CLER	00007	00051					
\$ERMG	00263	00055	00240	00278			
\$EX13	00032	00003					
\$IDCD	00319	00102	00209				
\$IDL1	00004	00103	00210				
\$IRT	00010	00068					
\$JLOD	00004	00093					
\$MDBF	00320	00041	00159				
\$MDLD	00007	00074					
\$MOVE	00005	00089	00179				
\$RTRN	00008	00292					
\$SYIO	00004	00182	00267				
\$WAIT	00006	00189	00273	00291			
.	00301	00302	00303	00304	00305	00306	00308
	00309	00310	00311	00312	00313	00314	00315
	00316	00317	00318	00319	00320	00321	00323
	00324	00325					
..	00296	00153	00178	00282	00297	00298	00299
	00300						
.12	00125	00035					
.13	00124	00092	00244				
.17	00299	00172					
.2	00297	00058					
.20	00126	00072					
.4	00298	00039					
A	00294	00084	00161	00283			
AB	00117	00238	00239				
ABRT	00238	00081					

B	00295	00044	00047	00054	00177
BATCH	00303	00098	00099	00207	
BLANK	00120	00049	00055		
CHARC	00325	00246			
CLEX	00302	00076	00078		
CNDEC	00005	00174			
CNOCT	00006	00042			
DEF20	00007	00070			
DEFEQ	00216	00175	00176		
DEFUD	00220	00149			
DISC	00123	00150			
DUMPS	00304	00079	00087		
EFMP	00324	00082			
EQT1	00309	00032	00169		
EQT14	00312	00203			
EQT4	00310	00146	00155	00157	00202
EQT7	00311	00197			
EQTAB	00305	00168			
ER10	00076	00062			
ERTBL	00222	00144	00160		
ETABL	00105	00053			
EXIT2	00064	00204			
EXMOD	00315	00228	00231		
EXPG	00308	00090			
GO	00212	00208			
IER02	00159	00154			
IER05	00177	00151			
IER10	00195	00166			

IERR,	00144	00040					
IOMSG	00213	00145	00162	00185			
JO	00110	00101					
L0020	00070	00036					
M77	00300	00148					
MASK8	00122	00156					
MSG	00215 00265	00043 00270	00045	00048	00050	00180	00264
N11	00127	00088					
N13	00234	00229					
NABRT	00314	00061					
OPFLG	00317	00181	00192	00266	00275		
RONBF	00306	00038	00307				
RQRTN	00313	00065					
SAVE\$	00008	00190					
SEQT	00121	00033	00193	00276	00281		
SETEQ	00006	00194	00277				
SWAP	00318	00094	00095	00164			
SXSUS	00323	00287					
SYSRT	00206	00201					
TEMP	00322	00071					
TEMP0	00321	00322					
UMFWA	00316	00199	00289				
WHERE	00280	00188	00196	00286			
XCLR	00227 00232	00063 00241	00064	00067	00073	00085	00195
XIRT	00307	00066					

PAGE 0001

0001

ASMB,L,X,C,N,R,B

PROCESS :LU, :UP, :DN

** NO ERRORS*

0001		ASMB,L,X,C,N,R,B	PROCESS :LU, :UP, :DN
0002	00000	NAM \$EX14,1	
0003		ENT \$EX14	
0004		EXT \$SYIO,\$CIC3,\$AVES,\$CNDEC	
0005		EXT \$RTRN	
0006	00000 064123	\$EX14 LDB JBUF	
0007	00001 004066	CLE,ELB	
0008	00002 076265R	STB BUFAD	
0009	00003 060332	LDA CHARC	GET # WORDS IN JOB BUFFER
0010	00004 001200	RAL	GET # CHARS
0011	00005 044000	ADB A	GET LAST CHAR ADDR IN JOB BUFF
0012	00006 076240R	STB LASTC	SAVE =(LAST INPUT CHAR ADDR + 1)
0013	00007 060275	LDA \$MDBF+1	
0014	00010 072271R	STA EXITA	
0015	00011 002400	CLA	
0016	00012 072273R	STA SAVE	CLEAR PAPAMETER
0017	00013 072274R	STA SAVE+1	
0018	00014 072275R	STA SAVE2	
0019	00015 072276R	STA SAVE2+1	
0020	00016 016221R	JSB GET	COLON
0021	00017 016221R	JSB GET	REQUEST CHAR 1
0022	00020 001727	ALF,ALF	
0023	00021 072272R	STA RQ	
0024	00022 016221R	JSB GET	REQUEST CHAR 2
0025	00023 032272R	IOR RQ	
0026	00024 072272R	STA RQ	REQUEST CODE
0027	00025 016221R	EX00 JSB GET	SCAN FOR , OR BLANK
0028	00026 052300R	CPA COMMA	
0029	00027 026033R	JMP EX01	FOUND THE COMMA
0030	00030 052277R	CPA BLANK	THEN IS IT BLANK
0031	00031 026056R	JMP EX10	NO L.U. OR EQ PAPAMETER
0032	00032 026025R	JMP EX00	NEITHER; SO GET NEXT CHAR
0033	00033 016221R	EX01 JSB GET	
0034	00034 016443R	JSB CHKDG	CHECK FOR VALID DIGIT
0035	00035 072273R	STA SAVE	
0036	00036 016221R	JSB GET	GET DIGIT 2
0037	00037 052277R	CPA BLANK	
0038	00040 026056R	JMP EX10	NO DIGIT 2
0039	00041 052300R	CPA COMMA	
0040	00042 026126R	JMP EX80	
0041	00043 016443R	JSB CHKDG	CHECK FOR VALID DIGIT
0042	00044 072274R	STA SAVE+1	
0043	00045 062273R	LDA SAVE	
0044	00046 001723	ALF,RAR	MULTIPLY (SAVE) X 10
0045	00047 042273R	ADA SAVE	
0046	00050 042273R	ADA SAVE	
0047	00051 042274R	ADA SAVE+1	
0048	00052 072273R	STA SAVE	
0049	00053 016221R	JSB GET	
0050	00054 052300R	CPA COMMA	
0051	00055 026126R	JMP EX80	
0052	00056 062272R	EX10 LDA RQ	
0053	00057 052301R	CPA UP	
0054	00060 026311R	JMP EX100	
0055	00061 052302R	CPA DN	
0056	00062 026370R	JMP EX200	

0057	00063	052412R	CPA WH	
0058	00064	026405R	JMP EX250	
0059*			:LU PROCESSOR	
0060	00065	062273R	LDA SAVE	
0061	00066	002002	SZA	
0062	00067	026076R	JMP EX60	
0063	00070	002004	INA	
0064	00071	072267R	STA CURNT	
0065	00072	064122	LDB LUT#	
0066	00073	007004	CMB, INB	
0067	00074	076270R	STB LOOP	
0068	00075	026101R	JMP EX70	GO TO FORM LU OUTPUT
0069	00076	072267R	STA CURNT	
0070	00077	003400	CCA	
0071	00100	072270R	STA LOOP	
0072	00101	062267R	LDA CURNT	CHECK IF LEGAL LOGICAL UNIT
0073	00102	003004	CMA, INA	
0074	00103	040122	ADA LUT#	
0075	00104	002020	SSA	
0076	00105	026457R	JMP ERMES	
0077	00106	062267R	LDA CURNT	
0078	00107	016004X	JSB CNDEC	CONVERT TO ASCII AND
0079	00110	072305R	STA LUOUT+1	STORE INTO FORMAT
0080	00111	062267R	LDA CURNT	
0081	00112	040052	ADA N1	
0082	00113	040121	ADA LUTAB	
0083	00114	160000	LDA A, I	
0084	00115	016004X	JSB CNDEC	CONVERT EQT# TO ASCII
0085	00116	072310R	STA LUOUT+4	
0086	00117	062303R	LDA LUOUT-1	
0087	00120	064041	LDB ..-10	
0088	00121	016241R	JSB MESSG	
0089	00122	036267R	ISZ CURNT	
0090	00123	036270R	ISZ LOOP	
0091	00124	026101R	JMP EX70	GO TO FORMAT
0092	00125	026462R	JMP EX300	
0093*				
0094	00126	062272R	LDA RQ	
0095	00127	052304R	CPA LUOUT	IS REQUEST LU?
0096	00130	002001	RSS	
0097	00131	026457R	JMP ERMES	NO, ERROR - CAN'T HAVE >1 PARAM
0098	00132	016221R	JSB GET	GET EQUIPMENT TAB ENTRY PARAM
0099	00133	052277R	CPA BLANK	
0100	00134	026457R	JMP ERMES	
0101	00135	052300R	CPA COMMA	
0102	00136	026457R	JMP ERMES	
0103	00137	016443R	JSB CHKDG	CHECK FOR VALID DIGIT
0104	00140	072275R	STA SAVE2	
0105	00141	016221R	JSB GET	GET DIGIT 2
0106	00142	052277R	CPA BLANK	
0107	00143	026156R	JMP EX81	NO DIGIT 2
0108	00144	052300R	CPA COMMA	
0109	00145	026457R	JMP ERMES	CAN'T HAVE >2 PARAM
0110	00146	016443R	JSB CHKDG	CHECK FOR VALID DIGIT
0111	00147	072276R	STA SAVE2+1	
0112	00150	062275R	LDA SAVE2	

0113	00151	001723	ALF,RAR	
0114	00152	042275R	ADA SAVE2	
0115	00153	042275R	ADA SAVE2	
0116	00154	042276R	ADA SAVE2+1	
0117	00155	072275R	STA SAVE2	
0118	00156	062273R	EX81 LDA SAVE	TEST IF LUN IN RANGE
0119	00157	002003	SZA,RSS	
0120	00160	026467R	JMP LUERR	LUN = 0 ERROR
0121	00161	003004	CMA,INA	
0122	00162	040122	ADA LUT#	
0123	00163	002020	SSA	
0124	00164	026467R	JMP LUERR	LUN > LUT# ERROR
0125	00165	062275R	LDA SAVE2	CHECK IF PARAM 2 IS IN RANGE
0126	00166	003004	CMA,INA	
0127	00167	040120	ADA EQT#	
0128	00170	002020	SSA	
0129	00171	026472R	JMP PILLG	EQT ENTRY > EQT# ERROR
0130	00172	060121	LDA LUTAB	TEST IF 2ND PARAM = EQT ENTRY 1
0131	00173	040054	ADA ..+1	LUN 2 OR 3. I.E. CAN'T ASSIGN
0132	00174	164000	LDB A,I	DISC TO ANY LUN OTHER THAN 2 OR
0133	00175	056275R	CPB SAVE2	
0134	00176	026472R	JMP PILLG	
0135	00177	002004	INA	
0136	00200	164000	LDB A,I	
0137	00201	056275R	CPB SAVE2	
0138	00202	026472R	JMP PILLG	
0139	00203	066273R	LDB SAVE	TEST IF ASSIGNING LUN 1, 2 OR 3.
0140	00204	060047	LDA ..-4	
0141	00205	040001	ADA B	IF SO , ILLEGAL.
0142	00206	002020	SSA	
0143	00207	026467R	JMP LUERR	
0144	00210	062275R	LDA SAVE2	TEST IF ASSIGNING ANY LUN TO NULL
0145	00211	002002	SZA	I.E. 2ND PARAM = 0.
0146	00212	026215R	JMP EX82	
0147	00213	054111	CPB BATCH	IF SO, CAN'T SET BATCH DEV TO NUL
0148	00214	026467R	JMP LUERR	
0149	00215	044121	EX82 ADB LUTAB	
0150	00216	044052	ADB ..-1	SET POINTER TO LUTAB
0151	00217	170001	STA B,I	ASSIGN IT
0152	00220	026462R	JMP EX300	
0153	00221	000000	GET NOP	
0154	00222	066265R	LDB BUFAD	BUFFER CHARACTER ADDRESS
0155	00223	056240R	CPB LASTC	GOT LAST CHAR ALREADY?
0156	00224	026236R	JMP GETBL	RETURN WITH REG A SET TO BLANK
0157	00225	004065	CLE,ERB	
0158	00226	160001	LDA B,I	
0159	00227	002041	SEZ,RSS	
0160	00230	001727	ALF,ALF	SHIFT HIGH INTO LOW
0161	00231	010074	AND .377	MASK OFF
0162	00232	005600	ELB	INCR CHARACTER ADDRESS
0163	00233	006004	INB	
0164	00234	076265R	STB BUFAD	SAVE BUFFER CHAR ADDRESS
0165	00235	126221R	JMP GET,I	RETURN WITH CHAR IN A
0166	00236	062277R	GETBL LDA BLANK	
0167	00237	126221R	JMP GET,I	
0168	00240	000000	LASTC NOP	

```

0169*
0170 00241 000000 MESSG NOP
0171 00242 072250R STA MSGAD
0172 00243 076251R STB MSGLN
0173 00244 034261 ISZ OPFLG
0174 00245 016001X JSB $SYIO
0175 00246 000002 DEC 2
0176 00247 000001 DEC 1
0177 00250 000000 MSGAD NOP
0178 00251 000000 MSGLN NOP
0179 00252 000261R DEF MSRTN
0180*
0181 00253 060322 LDA SX$US
0182 00254 003000 CMA
0183 00255 040254 ADA UMFWA
0184 00256 002021 SSA,RSS
0185 00257 026002X JMP $CIC3
0186 00260 026005X JMP $RTRN
0187*
0188 00261 016003X MSRTN JSB SAVES
0189 00262 002400 CLA
0190 00263 070261 STA OPFLG
0191 00264 126241R JMP MESSG,I
0192*
0193 00265 000000 BUFAD NOP
0194 00266 000000 EQTAD NOP
0195 00267 000000 CURNT NOP
0196 00270 000000 LOOP NOP
0197 00271 000000 EXITA NOP
0198 00272 000000 RQ NOP
0199 00273 000000 SAVE BSS 2
0200 00275 000000 SAVE2 BSS 2
0201 00277 000040 BLANK OCT 40
0202 00300 000054 COMMA OCT 54
0203 00301 052520 UP ASC 1,UP
0204 00302 042116 DN ASC 1,DN
0205 00303 000304R DEF ++1
0206 00304 046125 LUOUT ASC 1,LU
0207 00305 000000 NOP
0208 00306 020105 ASC 2, EQT
00307 050524
0209 00310 000000 NOP
0210* UP PROCESSOR
0211 00311 016416R EX100 JSB EQCHK
0212 00312 001222 RAL,RAL
0213 00313 010056 AND ,3
0214 00314 050054 CPA ,1
0215 00315 002001 RSS
0216 00316 026323R JMP EX150
0217 00317 162266R LDA EQTAD,I
0218 00320 012401R AND MASK1
0219 00321 172266R STA EQTAD,I
0220 00322 026462R JMP EX300
0221*
0222 00323 060120 EX150 LDA EQT#
0223 00324 003004 CMA,INA

```

LUOUT+2 = LOGICAL UNIT #

LUOUT+6 = EQT#

COMPUTE

MASK OFF AV BITS AND CHECK
DEVICE DOWN

DEVICE ISN'T DOWN
SET DEVICE UP
037777

DEVICE SET UP RETURN

*
* SET UP

```

0224 00325 072270R STA LOOP * TO REPORT
0225 00326 002404 CLA,INA * ALL DEVICES
0226 00327 072267R STA CURNT * CURRENTLY DOWN
0227 00330 064117 LDB EQTAB *
0228 00331 060001 EX160 LDA B
0229 00332 044066 ADB .17
0230 00333 076266R STB EQTAD
0231 00334 040056 ADA .3
0232 00335 160000 LDA A,I
0233 00336 001222 RAL,RAL
0234 00337 010056 AND .3
0235 00340 050054 CPA .1
0236 00341 026347R JMP EX180
0237 00342 066266R EX170 LDB EQTAD
0238 00343 036267R ISZ CURNT
0239 00344 036270R ISZ LOOP
0240 00345 026331R JMP EX160
0241 00346 026462R JMP EX300
0242*
0243 00347 062267R EX180 LDA CURNT
0244 00350 016004X JSB CNDEC
0245 00351 072364R STA DNMSG+4
0246 00352 062357R LDA DNMSG-1
0247 00353 066356R LDB N15
0248 00354 016241R JSB MESSG
0249 00355 026342R JMP EX170
0250*
0251 00356 177761 N15 DEC -15
0252 00357 000360R DEF ++1
0253 00360 042105 DNMSG ASC 8,DEVICE #XX DOWN
00361 053111
00362 041505
00363 020043
00364 054130
00365 020104
00366 047527
00367 047040
0254* DN PROCESSOR
0255 00370 016416R EX200 JSB EQCHK
0256 00371 012403R AND MASK4
0257 00372 052404R CPA DISC
0258 00373 026457R JMP ERMES
0259 00374 162266R LDA EQTAD,I
0260 00375 012401R AND MASK1
0261 00376 032402R IOR MASK3
0262 00377 172266R STA EQTAD,I
0263 00400 026462R JMP EX300
0264*
0265 00401 037777 MASK1 OCT 37777
0266 00402 040000 MASK3 OCT 40000
0267 00403 037400 MASK4 OCT 037400
0268 00404 014400 DISC OCT 14400
0269*
0270 00405 062411R EX250 LDA ++4
0271 00406 064043 LDB ...-8
0272 00407 016241R JSB MESSG

```

DEVICE DOWN?
-YES, GO REPORT IT

GO CHECK NEXT DEVICE
ALL DEVICES CHECKED - EXIT

SET EQPMT# IN 'DOWN' MESSAGE

YES, SO DO NOT SET DOWN

37777
40000

```

0273 00410 026462R      JMP EX300
0274*
0275 00411 000412R      DEF **1
0276 00412 053510      WH  ASC 4,WHY NOT?
      00413 054440
      00414 047117
      00415 052077
0277*
0278 00416 000000      EQCHK NOP
0279 00417 062273R      LDA SAVE          COMPUTE EQT ADDRESS
0280 00420 002003      SZA,RSS
0281 00421 026457R      JMP ERMES
0282 00422 002021      SSA,RSS
0283 00423 150121      CPA LUTAB,I
0284 00424 026457R      JMP ERMES
0285 00425 064120      LDB EQT#
0286 00426 007000      CMB
0287 00427 046273R      ADB SAVE
0288 00430 006021      SSB,RSS
0289 00431 026457R      JMP ERMES
0290 00432 040052      ADA N1
0291 00433 070001      STA B
0292 00434 001700      ALF
0293 00435 040001      ADA B
0294 00436 040117      ADA EQTAB
0295 00437 040056      ADA .3
0296 00440 072260R      STA EQTAD
0297 00441 160000      LDA A,I          GET DEVICE STATUS
0298 00442 126416R      JMP EQCHK,I
0299*
0300* ROUTINE TO CHECK FOR VALID DIGIT
0301*
0302*      ON ENTRY: "A" ASCII DIGIT
0303*      ON EXIT : "A" BINARY DIGIT
0304*
0305 00443 000000      CHKDG NOP
0306 00444 066455R      LDB NB60
0307 00445 044000      ADB A
0308 00446 006020      SSB
0309 00447 026467R      JMP LUERR          <60 IS ERROR
0310 00450 046456R      ADB NB12
0311 00451 006021      SSB,RSS
0312 00452 026467R      JMP LUERR          >72 IS ERROR
0313 00453 010070      AND M17
0314 00454 126443R      JMP CHKDG,I
0315*
0316 00455 177720      NB60  OCT -60
0317 00456 177766      NB12  OCT -12
0318*
0319 00457 062514R      ERMES LDA ERR-1
0320 00460 066513R      LDB N11
0321 00461 016241R      JSB MESSG
0322 00462 060245      EX300 LDA EXMOD
0323 00463 052512R      CPA N14
0324 00464 003004      CMA,INA
0325 00465 070245      STA EXMOD

```

```

0326 00466 126271R      JMP EXITA,I
0327*
0328 00467 062475R LUERR LDA PARER-1
0329 00470 040060      ADA ..+5
0330 00471 026460R      JMP ERMES+1
0331 00472 062475R PILLG LDA PARER-1
0332 00473 066511R      LDB N17
0333 00474 026461R      JMP ERMES+2
0334 00475 000476R      DEF ++1
0335 00476 050101 PARER ASC 9,PARAMETER ILLEGAL
      00477 051101
      00500 046505
      00501 052105
      00502 051040
      00503 044514
      00504 046105
      00505 043501
      00506 046040
0336 00507 046125      ASC 2,LUN
      00510 047040
0337 00511 177757 N17 DEC -17
0338*
0339 00512 177762 N14 DEC -14
0340 00513 177765 N11 DEC -11
0341 00514 000515R      DEF ++1
0342 00515 044516 ERR ASC 6,INPUT ERROR
      00516 050125
      00517 052040
      00520 042522
      00521 051117
      00522 051040
0343 00000 A EQU 0
0344 00001 B EQU 1
0345 00053 .. EQU 53B
0346 00052 N1 EQU ..-1
0347 00054 .1 EQU ..+1
0348 00056 .3 EQU ..+3
0349 00066 .17 EQU ..+11
0350 00070 M17 EQU ..+13
0351 00074 .377 EQU ..+17
0352 00100 . EQU 100B
0353 00111 BATCH EQU .+9
0354 00117 EQTAB EQU .+15
0355 00120 EQT# EQU .+16
0356 00121 LUTAB EQU .+17
0357 00122 LUT# EQU .+18
0358 00123 JBUF EQU .+19
0359 00245 EXMOD EQU .+101
0360 00254 UMFWA EQU .+108
0361 00261 OPFLG EQU .+113
0362 00274 $M06F EQU .+124
0363 00322 SXSUS EQU .+146
0364 00332 CHARC EQU .+232B
0365      END

```

*** NO ERRORS*

\$CIC3	00004	00185					
\$EX14	00006	00003					
\$MDBF	00362	00013					
\$RTRN	00005	00186					
\$SYIO	00004	00174					
.	00352 00359	00353 00360	00354 00361	00355 00362	00356 00363	00357 00364	00358
..	00345 00346	00087 00347	00131 00348	00140 00349	00150 00350	00271 00351	00329
.1	00347	00214	00235				
.17	00349	00229					
.3	00348	00213	00231	00234	00295		
.377	00351	00161					
A	00343 00307	00011	00083	00132	00136	00232	00297
B	00344	00141	00151	00158	00228	00291	00293
BATCH	00353	00147					
BLANK	00201	00030	00037	00099	00106	00166	
BUFAD	00193	00008	00154	00164			
CHARC	00364	00009					
CHKDG	00305	00034	00041	00103	00110	00314	
CNDEC	00004	00078	00084	00244			
COMMA	00202	00028	00039	00050	00101	00108	
CURNT	00195 00226	00064 00238	00069 00243	00072	00077	00080	00089
DISC	00268	00257					
DN	00204	00055					
DNMSG	00253	00245	00246				
EQCHK	00278	00211	00255	00298			
EQT#	00355	00127	00222	00285			

EQTAB	00354	00227	00294				
EQTAD	00194 00296	00217	00219	00230	00237	00259	00262
ERMES	00319 00281	00076 00284	00097 00289	00100 00330	00102 00333	00109	00258
ERR	00342	00319					
EX00	00027	00032					
EX01	00033	00029					
EX10	00052	00031	00038				
EX100	00211	00054					
EX150	00222	00216					
EX160	00228	00240					
EX170	00237	00249					
EX180	00243	00236					
EX200	00255	00056					
EX250	00270	00058					
EX300	00322	00092	00152	00220	00241	00263	00273
EX60	00069	00062					
EX70	00072	00068	00091				
EX80	00094	00040	00051				
EX81	00118	00107					
EX82	00149	00146					
EXITA	00197	00014	00326				
EXMOD	00359	00322	00325				
GET	00153 00049	00020 00098	00021 00105	00024 00165	00027 00167	00033	00036
GETBL	00166	00156					
JBUF	00358	00006					
LASTC	00168	00012	00155				

LOOP	00196	00067	00071	00090	00224	00239	
LUERR	00328	00120	00124	00143	00148	00309	00312
LUOUT	00206	00079	00085	00086	00095		
LUT#	00357	00065	00074	00122			
LUTAB	00356	00082	00130	00149	00283		
N17	00350	00313					
MASK1	00265	00218	00260				
MASK3	00266	00261					
MASK4	00267	00256					
MESSG	00170	00088	00191	00248	00272	00321	
MSGAD	00177	00171					
MSGLN	00178	00172					
MSRTN	00188	00179					
N1	00346	00081	00290				
N11	00340	00320					
N14	00339	00323					
N15	00251	00247					
N17	00337	00332					
NB12	00317	00310					
NB60	00316	00306					
OPFLG	00361	00173	00190				
PARER	00335	00328	00331				
PILLG	00331	00129	00134	00138			
RQ	00198	00023	00025	00026	00052	00094	
SAVE	00199 00046 00287	00016 00047	00017 00048	00035 00060	00042 00118	00043 00139	00045 00279
SAVE\$	00004	00188					
SAVE2	00200 00115	00018 00116	00019 00117	00104 00125	00111 00133	00112 00137	00114 00144

SXSUS	00363	00181
UMFWA	00360	00183
UP	00203	00053
WH	00276	00057

PAGE 0001

0001

ASMB,L,X,C,N,R,B

ABORT AND POST-MORTEM DUMP (SEX1

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      ABORT AND POST-MORTEM DUMP ($EX1
0002 00000      NAM $EX15,1
0003          ENT $EX15
0004          EXT $DISC,$SYIO,$IDL1,$JLOD
0005          EXT $MOVE,$WAIT,CNOCT
0006          EXT LUCHK,$LDVR
0007          EXT $BUF
0008*
0009*          $EX15 IS ABORT AND POST MORTEM DUMP ROUTINE
0010*          DUMP PARAMETERS HAVE BEEN SOORED BY JOB PROCESSOR ON THE SYSTEM
0011*          BUFFER SECTOR ON THE DISC.
0012*          WORD 1 =-0, NO MAIN PROGRAM DUMP (100000)
0013*          = -1, GET START ADDRESS FROM ID SEGMENT
0014*          = N, RELATIVE MAIN START ADDRESS
0015*          WORD 2 =-1, GET MAIN END ADDRESS FROM ID SEGMENT
0016*          = N, RELATIVE MAIN END ADDRESS
0017*          WORD 3 = 0, NO BASE PAGE AND EFFECTIVE CONTENTS DUMP
0018*          =-1, BASE PAGE AND EFFECTIVE CONTENTS DUMP
0019*          WORD4 = 0, NO LOBRARY AREA SUMP
0020*          =-1, LIBRARY AREA DUMP
0021*          ON ENTRY, B = 0 FOR ABORT DUMP
0022*          = 1 FOR POST MORTEM DUMP
0023*
0024 00000 060113 $EX15 LDA DUMPS      DUMP REQUESTED?
0025 00001 002003      SZA,RSS
0026 00002 026177R      JMP EXIT          -NO
0027 00003 060061      LDA ..+6
0028 00004 016010X      JSB LUCHK
0029 00005 064060      LDB ..+5
0030 00006 044121      ADB LUTAB          B POINTS TO LU ENTRY ,LIST DEVI
0031 00007 160001      LDA B,I          A HOLDS EQT ENTRY
0032 00010 002003      SZA,RSS          NULL? (=0?)
0033 00011 026177R      JMP EXIT          YES
0034 00012 016011X      JSB $LDVR      LOAD LIST DRIVER
0035 00013 016304R      JSB PAGE
0036 00014 064113      LDB DUMPS
0037 00015 062334R      LDA PBUFA
0038 00016 006020      SSB          PDUMP?
0039 00017 062333R      LDA ABUFA      NO. LOAD ADUMP INSTEAD
0040 00020 072024R      STA BUF
0041 00021 016002X      JSB $SYIO
0042 00022 000002      DEC 2          WRITE
0043 00023 000006      DEC 6          LUN
0044 00024 000024R BUF DEF *
0045 00025 000003      DEC 3          BUF LEN
0046 00026 000030R      DEF **+2
0047 00027 026006X      JMP $WAIT
0048*
0049 00030 062315R      LDA AB
0050 00031 070273      STA $IDCD
0051 00032 060115      LDA SYSBF      LOOK AT SYSTEM BUFFER SEC+
0052 00033 072320R      STA PARAM      START T/S
0053*
0054*          RESOLVE ADDRESS OF $BUF
0055*
0056 00034 062343R      LDA DEFBF

```

0057	00035	002001	RSS	
0058	00036	160000	LDA 0,I	
0059	00037	001275	RAL,CLE,SLA,ERA	
0060	00040	026036R	JMP *-2	
0061	00041	072343R	STA DEFBF	ADDRESS OF \$BUF
0062	00042	042345R	ADA .35	
0063	00043	072264R	STA DEPAR	ADDRESS OF \$BUF+35
0064	00044	042346R	ADA .42	
0065	00045	072344R	STA DEFAB	ADDRESS OF \$BUF+77
0067	00046	062343R	LDA DEFBF	
0068	00047	072321R	STA PARAM+1	CORE ADDRESS
0069	00050	062332R	LDA .128	
0070	00051	072322R	STA PARAM+2	# OF WORDS
0071	00052	062323R	LDA PARAX	
0072	00053	006404	CLB,INB	
0073	00054	016001X	JSB \$DISC	READ IN SYS BUFFER SECTOR
0074	00055	060113	LDA DUMPS	GET DUMP TYPE FLAG
0075	00056	066344R	LDB DEFAB	ADDRESS OF ABORT PARAMETERS
0076	00057	002021	SSA,RSS	
0077	00060	044057	ADB ..+4	
0078	00061	076324R	STB WORDP	
0079	00062	002400	CLA	
0080	00063	070113	STA DUMPS	CLEAR DUMP PARAMETER
0081	00064	060245	LDA EXMOD	
0082	00065	052221R	CPA N15	
0083	00066	003004	CMA,INA	
0084	00067	070245	STA EXMOD	
0085	00070	006004	INB	
0086	00071	162324R	LDA WORDP,I	CHECK WORD 1 VALUE
0087	00072	002002	SZA	0, SO CHECK WORD 2
0088	00073	026100R	JMP EX05	NOT ZERO, SO CHECK IF VALUE OR I
0089	00074	164001	LDB B,I	CHECK IF DUMP DESIRED
0090	00075	006003	SZB,RSS	
0091	00076	026120R	JMP EX20	NO MAIN DUMP DESIRED
0092	00077	026102R	JMP EX10	MAIN DUMP DESIRED
0093	00100	050052	CPA N1	CHECK IF START ADDR FROM ID SEGM
0094	00101	002400	CLA	
0095	00102	040254	ADA UMFWA	
0096	00103	012347R	AND MASK1	MASK OFF LAST 3 BITS
0097	00104	072325R	STA START	SET MAIN DUMP START ADDRESS
0098	00105	036324R	ISZ WORDP	INCR TO WORD 2
0099	00106	162324R	LDA WORDP,I	CHECK WORD 2 VALUE FOR END ADDR
0100	00107	050052	CPA N1	
0101	00110	026113R	JMP ++3	
0102	00111	040254	ADA UMFWA	ADD USER AREA BASE VALUE
0103	00112	026114R	JMP ++2	
0104	00113	060153	LDA EXPG+10	END ADDR FROM ID SEGMENT
0105	00114	072330R	STA END	
0106	00115	016304R	JSB PAGE	
0107	00116	016222R	JSB FMOUT	GO TO FORMAT AND OUTPUT ROUTINE
0108	00117	002001	RSS	
0109	00120	036324R	ISZ WORDP	
0110	00121	036324R	ISZ WORDP	
0111	00122	162324R	LDA WORDP,I	CHECK IF BASE PAGE DUMP
0112	00123	002021	SSA,RSS	

0113	00124	026164R	JMP EX70	NO BASE PAGE DUMP
0114	00125	060255	LDA UBFWA	
0115	00126	012347R	AND MASK1	
0116	00127	072325R	STA START	
0117	00130	060151	LDA EXPG+8	
0118	00131	072330R	STA END	
0119	00132	016304R	JSB PAGE	
0120	00133	060047	LDA N4	SET LOOP COUNTER
0121	00134	072326R	STA LOOP	
0122	00135	062254R	LDA DEPAR	SET STORAGE ADDRESS
0123	00136	072327R	STA STADD	
0124	00137	062325R	LDA START	OCTAL CORE ADDRESS
0125	00140	016007X	JSB CNOCT	
0126	00141	160001	LDA B,I	
0127	00142	010074	AND .377	
0128	00143	032317R	IOR UBLNK	
0129	00144	170001	STA B,I	
0130	00145	016264R	JSB STORE	
0131	00146	162325R	LDA START,I	
0132	00147	016007X	JSB CNOCT	
0133	00150	016264R	JSB STORE	CONVERT TO ASCII AND STORE
0134	00151	162325R	LDA START,I	
0135	00152	001265	RAL,CLE,ERA	
0136	00153	160000	LDA A,I	CONTENTS OF BASE PAGE ADDRESS
0137	00154	016007X	JSB CNOCT	
0138	00155	016264R	JSB STORE	CONVERT AND WORE
0139	00156	036325R	ISZ START	
0140	00157	036326R	ISZ LOOP	CHECK IF FULL LINE FORMATTED
0141	00160	026146R	JMP EX50	NO
0142	00161	016250R	JSB OUT	
0143	00162	002021	SSA,RSS	
0144	00163	026133R	JMP EX40	GO FORMAT NEXT LINE
0145	00164	036324R	ISZ WORDP	
0146	00165	162324R	LDA WORDP,I	
0147	00166	002021	SSA,RSS	
0148	00167	026177R	JMP EXIT	ALL DONE WITH DUMP
0149	00170	060153	LDA EXPG+10	
0150	00171	012347R	AND MASK1	
0151	00172	072325R	STA START	
0152	00173	060147	LDA EXPG+6	
0153	00174	072330R	STA END	
0154	00175	016304R	JSB PAGE	
0155	00176	016222R	JSB FMOUT	
0156	00177	002400	CLA	FREE MODULE AREA
0157	00200	070273	STA \$IDCD	
0158	00201	066331R	LDB N11	
0159	00202	016005X	JSB \$MOVE	
0160	00203	000141	DEF EXPG	
0161	00204	060245	LDA EXMOD	
0162	00205	052221R	CPA N15	
0163	00206	003004	CMA,INA	
0164	00207	070245	STA EXMOD	
0165	00210	006404	CLB,INB	
0166	00211	060262	LDA SWAP	
0167	00212	002020	SSA	
0168	00213	074111	STB BATCH	

0169	00214	064332	LDB	CHARC	CHECK IF : INPUT DETECTED
0170	00215	006002	SZB		
0171	00216	026004X	JMP	\$JL0D	TRANSFER DIRECTLY TO JOB PROCESS0
0172	00217	074262	STB	SWAP	
0173	00220	026003X	JMP	\$IDL1	
0174*					
0175	00221	177761	N15	DEC	-15
0176*					
0177	00222	000000	FMOUT	NOP	FORMAT AND OUTPUT ONE LINE
0178	00223	060043	LDA	N8	
0179	00224	072326R	STA	LOOP	
0180	00225	062254R	LDA	DEPAR	
0181	00226	072327R	STA	STADD	
0182	00227	062325R	LDA	START	
0183	00230	016007X	JSB	CNOCT	FORMAT AND STORE CORE LOCATION
0184	00231	160001	LDA	B,I	
0185	00232	010074	AND	,377	
0186	00233	032317R	IOR	UBLNK	
0187	00234	170001	STA	B,I	
0188	00235	016264R	JSB	STORE	
0189	00236	162325R	FM10	LDA START,I	FORMAT AND STORE ONE VALUE
0190	00237	016007X	JSB	CNOCT	
0191	00240	016264R	JSB	STORE	
0192	00241	036325R	ISZ	START	
0193	00242	036326R	ISZ	LOOP	
0194	00243	026236R	JMP	FM10	GO TO FORMAT NEXT WORD
0195	00244	016250R	JSB	OUT	
0196	00245	002021	SSA	RSS	
0197	00246	026223R	JMP	FMOUT+1	NO
0198	00247	126222R	JMP	FMOUT,I	YES
0199*					
0200	00250	000000	OUT	NOP	
0201	00251	016002X	JSB	\$SYIO	
0202	00252	000002	DEC	2	
0203	00253	000006	DEC	6	
0204	00254	000000	DEPAR	NOP	ADDRESS OF \$BUF+35
0205	00255	177670	DEC	-72	
0206	00256	000260R	DEF	*+2	
0207	00257	026006X	JMP	\$WAIT	
0208	00260	062325R	LDA	START	
0209	00261	003004	CMA	INA	
0210	00262	042330R	ADA	END	
0211	00263	126250R	JMP	OUT,I	
0212	00264	000000	STORE	NOP	STORE BLANK
0213	00265	062316R	LDA	BLNK	
0214	00266	172327R	STA	STADD,I	
0215	00267	036327R	ISZ	STADD	
0216	00270	160001	LDA	B,I	
0217	00271	172327R	STA	STADD,I	
0218	00272	036327R	ISZ	STADD	
0219	00273	006004	INB		
0220	00274	160001	LDA	B,I	
0221	00275	172327R	STA	STADD,I	
0222	00276	036327R	ISZ	STADD	
0223	00277	006004	INB		
0224	00300	160001	LDA	B,I	

```

0225 00301 172327R STA STADD,I
0226 00302 036327R ISZ STADD
0227 00303 126264R JMP STORE,I RETURN

```

0228*

```

0229 00304 000000 PAGE NOP
0230 00305 016002X JSB $SYIO
0231 00306 000003 DEC 3
0232 00307 001106 OCT 1106
0233 00310 177777 DEC -1
0234 00311 000000 DEC 0
0235 00312 000314R DEF ++2
0236 00313 026006X JMP $WAIT
0237 00314 126304R JMP PAGE,I
0238 00315 040502 AB ASC 1,AB
0239 00316 020040 BLNK ASC 1,
0240 00317 020000 UBLNK OCT 020000
0241 00320 000000 PARAM BSS 3
0242 00323 000320R PARAX DEF PARAM
0243 00324 000000 WORDP NOP
0244 00325 000000 START NOP
0245 00326 000000 LOOP NOP
0246 00327 000000 STADD NOP
0247 00330 000000 END NOP
0248 00331 177765 N11 DEC -11
0249 00332 000200 .128 DEC 128
0250 00333 000335R ABUFA DEF ABUF
0251 00334 000340R PBUFA DEF PBUF
0252 00335 020101 ABUF ASC 3, ADUMP
00336 042125
00337 046520
0253 00340 020120 PBUF ASC 3, PDUMP
00341 042125
00342 046520

```

0254*

```

0255 00343 000012X DEFBF DEF $BUF
0256 00344 000000 DEFAB NOP ABORT DUMP PARAMETERS
0257 00345 000043 .35 DEC 35
0258 00346 000052 .42 DEC 42

```

0259*

```

0260 00347 177770 MASK1 OCT 177770
0261 00000 A EQU 0
0262 00001 B EQU 1
0263 00053 .. EQU 538
0264 00043 N8 EQU ..-8
0265 00047 N4 EQU ..-4
0266 00052 N1 EQU ..-1
0267 00074 .377 EQU ..+17
0268*
0269 00100 . EQU 1008
0270 00111 BATCH EQU .+9
0271 00113 DUMPS EQU .+11
0272 00115 SYSBF EQU .+13
0273 00121 LUTAB EQU .+17
0274 00141 EXPG EQU .+33
0275 00245 EXMOD EQU .+101
0276 00254 UMFNA EQU .+108

```

PAGE 0007 #01

0277	00255	UBFWA	EQU	+.109
0278	00262	SWAP	EQU	+.114
0279	00273	\$IDCD	EQU	+.123
0280	00332	CHARC	EQU	+.154
0281			END	

** NO ERRORS*

\$HUF 00007/02 00255/02
\$DISC 00004/02 00073/02
\$EX15 00024/02 00003/02
\$IDCD 00279/02 00050/02 00157/02
\$IDL1 00004/02 00173/02
\$JL0D 00004/02 00171/02
\$LDVR 00006/02 00034/02
\$MOVE 00005/02 00159/02
\$SYIO 00004/02 00041/02 00201/02 00230/02
\$WAIT 00005/02 00047/02 00207/02 00236/02
.
00269/02 00270/02 00271/02 00272/02 00273/02 00274/02 00275/02
00276/02 00277/02 00278/02 00279/02 00280/02
..
00263/02 00027/02 00029/02 00077/02 00264/02 00265/02 00266/02
00267/02
.128 00249/02 00069/02
.35 00257/02 00062/02
.377 00267/02 00127/02 00185/02
.42 00258/02 00064/02
A 00261/02 00136/02
AB 00238/02 00049/02
ABUF 00252/02 00250/02
ABUFA 00250/02 00039/02
B 00262/02 00031/02 00089/02 00126/02 00129/02 00184/02 00187/02
00216/02 00220/02 00224/02
BATCH 00270/02 00168/02
BLNK 00239/02 00213/02
BUF 00044/02 00040/02
CHARC 00280/02 00169/02
CNOCT 00005/02 00125/02 00132/02 00137/02 00183/02 00190/02

DEFAB 00256/02 00065/02 00075/02
DEFBF 00255/02 00056/02 00061/02 00067/02
DEPAR 00204/02 00063/02 00122/02 00180/02
DUMPS 00271/02 00024/02 00036/02 00074/02 00080/02
END 00247/02 00105/02 00118/02 00153/02 00210/02
EX05 00093/02 00088/02
EX10 00095/02 00092/02
EX20 00109/02 00091/02
EX40 00120/02 00144/02
EX50 00131/02 00141/02
EX70 00145/02 00113/02
EXIT 00156/02 00026/02 00033/02 00148/02
EXMOD 00275/02 00081/02 00084/02 00161/02 00164/02
EXP6 00274/02 00104/02 00117/02 00149/02 00152/02 00160/02
FM10 00189/02 00194/02
FMOUT 00177/02 00107/02 00155/02 00197/02 00198/02
LOOP 00245/02 00121/02 00140/02 00179/02 00193/02
LUCHK 00006/02 00028/02
LUTAB 00273/02 00030/02
MASK1 00260/02 00096/02 00115/02 00150/02
N1 00266/02 00093/02 00100/02
N11 00248/02 00158/02
N15 00175/02 00082/02 00162/02
N4 00265/02 00120/02
N8 00264/02 00178/02
OUT 00200/02 00142/02 00195/02 00211/02
PAGE 00229/02 00035/02 00106/02 00119/02 00154/02 00237/02
PARAM 00241/02 00052/02 00068/02 00070/02 00242/02

PARAX 00242/02 00071/02
PBUF 00253/02 00251/02
PBUFA 00251/02 00037/02
STADD 00246/02 00123/02 00181/02 00214/02 00215/02 00217/02 00218/02
00221/02 00222/02 00225/02 00226/02
START 00244/02 00097/02 00116/02 00124/02 00131/02 00134/02 00139/02
00151/02 00182/02 00189/02 00192/02 00208/02
STORE 00212/02 00130/02 00133/02 00138/02 00188/02 00191/02 00227/02
SWAP 00278/02 00166/02 00172/02
SYSBF 00272/02 00051/02
UBFWA 00277/02 00114/02
UBLNK 00240/02 00128/02 00186/02
UMFWA 00276/02 00095/02 00102/02
WORDP 00243/02 00078/02 00086/02 00098/02 00099/02 00109/02 00110/02
00111/02 00145/02 00146/02

PAGE 0001

0001

ASMB,L,X,C,N,R,B

IG0 PARAMETER PROCESSOR (SEX16)

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      :GO PARAMETER PROCESSOR ($EX16)
0002 00000      NAM $EX16,1
0003          ENT $EX16
0004          EXT $TYPE,$IDL1
0005          EXT $IRT
0006*
0007*      $EX16 IS THE :GO PARAMETER PROCESSOR MODULE
0008*
0009 00000 062117R $EX16 LDA DFRON      SET STORE ADDRESS
0010 00001 072126R      STA STADD
0011 00002 060046      LDA N5
0012 00003 072127R      STA COUNT      SET STORE COUNT
0013 00004 060123      LDA JBUF      SET DATA CHARACTER ADDRESS
0014 00005 000066      CLE,ELA
0015 00006 072124R      STA BUFAD
0016 00007 060274      LDA $MDBF      SET NEG # CHARACTERS IN BUFFER
0017 00010 001200      RAL
0018 00011 003004      CMA,INA
0019 00012 072125R      STA BUFCT
0020 00013 016101R      JSB GET      GET :
0021 00014 016101R      JSB GET      G
0022 00015 016101R      JSB GET      0
0023 00016 016101R      JSB GET      /
0024 00017 002400      EX10 CLA      CLEAR CURRENT STORE VALUE
0025 00020 172126R      STA STADD,I
0026 00021 016101R      EX15 JSB GET      GET 1 DATA CHARACTER
0027 00022 002002      SZA      SKIP-IF DONE
0028 00023 026032R      JMP EX20      NOT DONE
0029 00024 036126R      EX16 ISZ STADD      STORE NECESSARY # OF ZERO
0030 00025 036127R      ISZ COUNT
0031 00026 002001      RSS
0032 00027 026054R      JMP EX50      DONE STORING ZEROS
0033 00030 172126R      STA STADD,I      STORE 0
0034 00031 026024R      JMP EX16      GO STORE NEXT ZERO
0035 00032 052120R      EX20 CPA COMMA      CHECK IF COMMA
0036 00033 026051R      JMP EX30      YES-30 DONE WITH PARAMETER
0037 00034 052122R      CPA BLANK      CHECK IF BLANK
0038 00035 026021R      JMP EX15      YES-30 IGNORE CHARACTER
0039 00036 010074      AND M377
0040 00037 042121R      ADA N60B
0041 00040 072130R      STA TEMP
0042 00041 162126R      LDA STADD,I      MPY STORED VALUE BY 10
0043 00042 070001      STA B
0044 00043 001723      ALF,RAR
0045 00044 040001      ADA B
0046 00045 040001      ADA B
0047 00046 042130R      ADA TEMP      ADD CURRENT DIGIT
0048 00047 172126R      STA STADD,I      AND STORE
0049 00050 026021R      JMP EX15      GO GET NEXT DIGIT
0050 00051 036126R      EX30 ISZ STADD      INCREMENT STORE ADDRESS
0051 00052 036127R      ISZ COUNT      INCR COUNT
0052 00053 026017R      JMP EX10      GO GET NEXT PARAMETER
0053 00054 060272      EX50 LDA $GOPT
0054 00055 072126R      STA STADD
0055 00056 006400      CLB
0056 00057 074272      STB $GOPT      CLEAR POINT OF SUSPENSION

```

0057	00060	074273	STB \$IDCD	CLEAR :GO CODE SEARCH
0058	00061	064245	LDB EXMOD	
0059	00062	056123R	CPB N16	
0060	00063	007004	CMB, INB	
0061	00064	074245	STB EXMOD	FREE MODULE AREA
0062	00065	007400	CCB	
0063	00066	002003	SZA, RSS	
0064	00067	026001X	JMP STYPE	
0065	00070	003000	CMA	
0066	00071	040254	ADA UMFVA	
0067	00072	002021	SSA, RSS	
0068	00073	026002X	JMP \$IDL1	
0069	00074	062126R	LDA STADD	SET UP TRANSFER ADDR FOR SIRT
0070	00075	070137	STA XIRT	
0071	00076	002400	CLA	
0072	00077	066117R	LDB DFRON	SET H TO POINT TO POSSIBLE PARAM
0073	00100	026003X	JMP SIRT	SET INTERRUPT SYS, MEM PROT
0074*				
0075	00101	000000	GET NOP	
0076	00102	062125R	LDA BUFCT	CHECK CHARACTER COUNTER
0077	00103	002003	SZA, RSS	SKIP=MORE DATA
0078	00104	126101R	JMP GET, I	NO MORE DATA
0079	00105	066124R	LDB BUFAD	GET BUFFER CHARACTER ADDRESS
0080	00106	004065	CLE, ERB	FORM WORD/HI=LOW ADDRESS
0081	00107	160001	LDA B, I	GET DATA WORD
0082	00110	002041	SEZ, RSS	CHECK HI OR LOW CHARACTER
0083	00111	001727	ALF, ALF	HI=SO SHIFT INTO LOW
0084	00112	010074	AND M377	MASK OFF ALL BUT LOW BITS
0085	00113	036124R	ISZ BUFAD	INCR BUFFER CHARACTER ADDRESS
0086	00114	036125R	ISZ BUFCT	INCR CHARACTER COUNT
0087	00115	126101R	JMP GET, I	RETURN
0088	00116	126101R	JMP GET, I	RETURN
0089	00117	000126	DFRON DEF RONBF	
0090	00120	000054	COMMA OCT 54	
0091	00121	177720	N60B OCT -60	
0092	00122	000040	BLANK OCT 40	
0093	00123	177760	N16 DEC -16	
0094	00124	000000	BUFAD NOP	
0095	00125	000000	BUFCT NOP	
0096	00126	000000	STADD NOP	
0097	00127	000000	COUNT NOP	
0098	00130	000000	TEMP NOP	
0099	00000		A EQU 0	
0100	00001		B EQU 1	
0101	00053		.. EQU 53B	
0102	00046		N5 EQU ..-5	
0103	00074		M377 EQU ..+17	
0104	00100		. EQU 100B	
0105	00123		JBUF EQU ..+19	
0106	00126		RONBF EQU ..+22	
0107	00137		XIRT EQU RONBF+9	
0108	00245		EXMOD EQU ..+101	
0109	00254		UMFWA EQU ..+108	
0110	00272		\$GOPT EQU ..+122	
0111	00273		\$IDCD EQU ..+123	
0112	00274		\$MDBF EQU ..+124	

PAGE 0004 #01

0113

END

** NO ERRORS*

SEX16	00009	00003					
SGOPT	00110	00053	00056				
SIDCD	00111	00057					
SIDL1	00004	00068					
SIRT	00005	00073					
SMDBF	00112	00016					
STYPE	00004	00064					
.	00104 00112	00105	00106	00108	00109	00110	00111
..	00101	00102	00103				
*A	00099						
B	00100	00043	00045	00046	00081		
BLANK	00092	00037					
BUFAD	00094	00015	00079	00085			
BUFCT	00095	00019	00076	00086			
COMMA	00090	00035					
COUNT	00097	00012	00030	00051			
DFRON	00089	00009	00072				
EX10	00024	00052					
EX15	00026	00038	00049				
EX16	00029	00034					
EX20	00035	00028					
EX30	00050	00036					
EX50	00053	00032					
EXMOD	00108	00058	00061				
GET	00075 00087	00020 00088	00021	00022	00023	00026	00078
JBUF	00105	00013					
M377	00103	00039	00084				

N16	00093	00059					
N5	00102	00011					
N60B	00091	00040					
RONBF	00106	00089	00107				
STADD	00096 00050	00010 00054	00025 00069	00029	00033	00042	00048
TEMP	00098	00041	00047				
UMFWA	00109	00066					
XIRT	00107	00070					

PAGE 0001

0001

ASMB,L,X,C,N,R,B

PROCESS :UD DIRECTIVE (SEX17)

** NO ERRORS*

0001		ASMB,L,X,C,N,R,B	PROCESS :UD DIRECTIVE (\$EX17)
0002	00000	NAM \$EX17,1	
0003		ENT \$EX17	
0004		EXT \$MOLD,DEF04,DEF19	
0005		EXT LBLIO,ISLBL,MESSE	
0006		EXT \$B1,\$B2,\$B3,\$B4,\$B5,\$B64	
0007		EXT \$IRT	
0008		SUP	
0009	00000 026016R	\$EX17 JMP XNTRY	NORMAL ENTRY POINT
0010	00001 062121R	LDA SBCHN	DISC NR/PE ENTRY POINT
0011	00002 002020	SSA	IS THIS REQUEST A SEARCH
0012	00003 026126R	JMP NEGL	-YES, GO LOOK SOME MORE
0013*			
0014	00004 062013R	LDA ASCNR	
0015	00005 006002	SZB	
0016	00006 062014R	LDA ASCPE	
0017	00007 070275	STA \$MDBF+1	SET NOT RDY/PARITY ERR
0018	00010 016354R	JSB RESET	RESTORE SUBCHNL
0019	00011 064057	LDB .+4	
0020	00012 026072R	JMP LOD04+1	
0021*			
0022	00013 047122	ASCNR ASC 1,NR	
0023	00014 050105	ASCPE ASC 1,PE	
0024*			
0025	00015 000001R	DFERR DEF \$EX17+1	
0026*			
0027	00016 060161	XNTRY LDA CUDSC	
0028	00017 072365R	STA SAVSC	SAVE CURRENT USER SUBCHNL
0029	00020 060200	LDA DISCL	
0030	00021 072366R	STA SVDCL	
0031	00022 064224	LDB RQCNT	
0032	00023 044047	ADB .-4	
0033	00024 006024	SSB,INB	4 PARAMETERS?
0034	00025 026033R	JMP UDISC	-NO, MUST BE *UD*
0035	00026 160231	LDA RQP4,I	
0036	00027 050054	CPA .+1	
0037	00030 026172R	JMP JPSET	
0038	00031 002024	SSA,INA	
0039	00032 026225R	JMP LOD19	-YES, GO INIT, DISC
0040*			
0041	00033 062015R	UDISC LDA DFERR	
0042	00034 070330	STA XFLG	
0043	00035 060156	LDA LSTSC	
0044	00036 003000	CMA	
0045	00037 006021	SSB,RSS	3 PARAMETERS?
0046	00040 160230	LDA RQP3,I	-YES, GET SUBCHAN PARAM,
0047	00041 072121R	STA SBCHN	
0048	00042 002020	SSA	SUBCHNL NEGATIVE?
0049	00043 026134R	JMP USRCH	-YES, GO SEARCH SYSTEM
0050	00044 070161	STA CUDSC	
0051	00045 016322R	JSB LBLIN	
0052	00046 016233R	JSB SYCHK	CHECK GEN. AND DOS CODES
0053	00047 062152R	LDA UDLBL	
0054	00050 016005X	JSB ISLBL	IS IT LABELED?
0055	00051 026056R	JMP NOLBL	-NO
0056*			

0057	00052	064227		LDB RQP2	
0058	00053	016305R		JSB COMPR	LABEL = REQ LABEL?
0059	00054	026146R		JMP LSTLB	
0060	00055	026177R		JMP SETXT	
0061*					
0062	00056	160227	NOLBL	LDA RQP2,I	
0063	00057	002003		SZA,RSS	LABEL PARAM PRESENT?
0064	00060	026064R		JMP LSTNL	-NO, GO PRINT *UNLBL*
0065	00061	010075		AND M1774	
0066	00062	052133R		CPA UPAST	REQ FOR UNLABELED DISC?
0067	00063	026177R		JMP SETXT	
0068*					
0069	00064	062151R	LSTNL	LDA ULM3G	
0070	00065	064046		LDB .-5	
0071	00066	016006X	MSRST	JSB MESSG	OUTPUT *UNLBL*
0072*					
0073	00067	016354R		JSB RESET	RESTORE SUBCHNL
0074*					
0075	00070	064055		LDB .+2	
0076*					
0077	00071	046261R	LOD04	ADB GNFLG	
0078	00072	002400		CLA	
0079	00073	072261R		STA GNFLG	
0080	00074	070330		STA XFLG	
0081	00075	016162R		JSB XCLR	
0082	00076	062002X		LDA DEF04	
0083	00077	070305		STA TEMP	
0084	00100	060057		LDA .+4	
0085	00101	026001X		JMP SMDLD	LOAD SEX04
0086*					
0087	00102	062121R	NXSRC	LDA SBCHN	
0088	00103	003000		CMA	SET NEXT SUBCHNL TO CHECK
0089	00104	070161		STA CUDSC	
0090	00105	016322R		JSB LBLIN	
0091	00106	062152R		LDA UDLBL	
0092	00107	016005X		JSB ISLBL	IS DISC LABELED?
0093	00110	026122R		JMP NOLAB	-NO
0094	00111	064227		LDB RQP2	
0095	00112	016305R		JSB COMPR	REQ LABEL = DISC LABEL?
0096	00113	026126R		JMP NEQL	-NO
0097*					
0098	00114	060262	LSTUD	LDA SWAP	
0099	00115	002002		SZA	
0100	00116	016335R		JSB RPTSC	
0101	00117	016233R		JSB SYCHK	
0102	00120	026177R		JMP SETXT	
0103*					
0104	00121	000000	SBCHN	NOP	
0105*					
0106	00122	160227	NOLAB	LDA RQP2,I	
0107	00123	010075		AND M1774	
0108	00124	052133R		CPA UPAST	UNLABELED DISC REQUESTED?
0109	00125	026114R		JMP LSTUD	
0110*					
0111	00126	036121R	NEQL	ISZ SBCHN	MORE SUBCHNLS?
0112	00127	026102R		JMP NXSRC	-YES, GO CHECK NEXT ONE

0113	00130	062267R	LDA	NDMSG	-NO
0114	00131	064064	LDB	.+9	
0115	00132	026066R	JMP	MSRST	GO RESET SUBCHNL
0116	00133	025000	UPAST	OCT 025000	
0117*					
0118	00134	160227	USRCH	LDA RQP2,I	LABEL PARAM?
0119	00135	002002		SZA	
0120	00136	026102R	JMP	NXSRC	
0121	00137	072121R	STA	SBCHN	
0122	00140	016335R	JSB	RPT8C	
0123	00141	016322R	JSB	LBLIN	
0124	00142	016233R	JSB	SYCHK	
0125	00143	062152R	LDA	UDLBL	
0126	00144	016005X	JSB	ISLBL	IS DISC LABELED?
0127	00145	026064R	JMP	LSTNL	-NO
0128*					
0129	00146	062153R	LSTLB	LDA LBMSG	
0130	00147	064041		LDB .-10	
0131	00150	026066R	JMP	MSRST	OUTPUT *LBL = XXXXXX*
0132*					
0133	00151	000154R	ULMSG	DEF ++3	
0134	00152	000157R	UDLBL	DEF ++5	
0135	00153	000155R	LBMSG	DEF ++2	
0136	00154	052516	ASC	3,UNLBL=	
0137	00157	000000	BSS	3	
0138*					
0139	00162	000000	XCLR	NOP	
0140	00163	060245		LDA EXMOD	
0141	00164	052170R		CPA N17	
0142	00165	003004		CMA,INA	
0143	00166	070245		STA EXMOD	
0144	00167	126162R		JMP XCLR,I	
0145	00170	177757	N17	DEC -17	
0146*					
0147	00171	000067R	DFRST	DEF MSRST+1	
0148*					
0149	00172	160230	JPSET	LDA RQP3,I	
0150	00173	070161		STA CUDSC	
0151	00174	062171R		LDA DFRST	
0152	00175	070330		STA XFLG	
0153	00176	016322R		JSB LBLIN	
0154*					
0155	00177	006400	SETXT	CLB	SET FLAG TO INDICATE CHANGE
0156	00200	076367R		STB STFLG	
0157	00201	066304R		LDB XSYS	
0158	00202	016305R		JSB COMPR	LABEL = SYSTEM?
0159	00203	026211R		JMP NOTSY	-NO
0160	00204	006404		CLB,INB	-YES
0161	00205	062014X		LDA \$B64	
0162	00206	070200		STA DISCL	
0163	00207	062334R		LDA .128	
0164	00210	016004X		JSB LBLIO	GET USER AREA LABEL SECTOR
0165	00211	066014X	NOTSY	LDB \$B64	
0166	00212	074157		STB UDNTS	
0167*					
0168	00213	016162R		JSB XCLR	

0169	00214	006400		CLB	
0170	00215	074330		STB XFLG	
0171	00216	062261R		LDA GNFLG	
0172	00217	002002		SZA	
0173	00220	026071R		JMP LOD04	
0174	00221	060225		LDA RQRTN	SET UP RETURN ADDR FOR SIRT
0175	00222	070137		STA XIRT	
0176	00223	062367R		LDA STFLG	GET CHANGE/NOCHANGE FLAG
0177	00224	026015X		JMP SIRT	RESTORE INTERRUPT SYS, MEM PROT
0178*					
0179*					
0180	00225	016162R	LOD19	JSB XCLR	
0181	00226	062003X		LDA DEF19	
0182	00227	070305		STA TEMP	
0183	00230	062232R		LDA .19	
0184	00231	026001X		JMP \$MDLD	LOAD \$EX19 TO PROCESS :IN
0185	00232	000023	.19	DEC 19	
0186*					
0187*					
0188	00233	000000	SYCHK	NOP	
0189	00234	060176		LDA SYSCD	
0190	00235	052010X		CPA \$B2	SYSGEN CODE = DISC GEN CODE?
0191	00236	026243R		JMP SYDOS	-YES
0192	00237	070274		STA \$MDBF	
0193	00240	062010X		LDA \$B2	
0194	00241	070275		STA \$MDBF+1	
0195	00242	036261R		ISZ GNFLG	
0196	00243	062007X	SYDOS	LDA \$B1	
0197	00244	052262R		CPA ASCDO	DOS PROPRIETARY CODE?
0198	00245	126233R		JMP SYCHK, I	-YES
0199	00246	066266R		LDB QBLNK	
0200	00247	052263R		CPA ASCTS	
0201	00250	066264R		LDB ASCB	
0202	00251	056266R		CPB QBLNK	
0203	00252	062265R		LDA QMRKS	
0204	00253	072271R		STA PRMSG+1	
0205	00254	076272R		STB PRMSG+2	
0206	00255	062270R		LDA PRMSG	
0207	00256	064043		LDB .-8	
0208	00257	016006X		JSB MESSG	OUTPUT PROPRIETARY CODE WARNING
0209	00260	126233R		JMP SYCHK, I	
0210*					
0211	00261	000000	GNFLG	NOP	
0212	00262	042117	ASCDO	ASC 1, DO	
0213	00263	052123	ASCTS	ASC 1, TS	
0214	00264	041040	ASCB	ASC 1, B	
0215	00265	037477	QMRKS	ASC 1, ??	
0216	00266	037440	QBLNK	ASC 1, ?	
0217	00267	000273R	NDMSG	DEF ++4	
0218	00270	000271R	PRMSG	DEF ++1	
0219	00271	000000	BSS	2	
0220	00273	042111	ASC	9, DISC NOT ON SYSTEM	
0221	00304	000301R	XSYS	DEF +-3	
0222*					
0223	00305	000000	COMPR	NOP	
0224	00306	160001		LDA B, I	

0225	00307	052011X	CPA \$B3	1ST WORD = ?
0226	00310	006005	INB,RSS	-YES, CHECK NEXT
0227	00311	126305R	JMP COMPR,I	-NO, EXIT
0228	00312	160001	LDA B,I	
0229	00313	052012X	CPA \$B4	2ND WORD = ?
0230	00314	006005	INB,RSS	-YES, CHECK NEXT
0231	00315	126305R	JMP COMPR,I	-NO, EXIT
0232	00316	160001	LDA B,I	
0233	00317	052013X	CPA \$B5	3RD WORD = ?
0234	00320	036305R	ISZ COMPR	-YES, INCR. TO INDICATE MATCH
0235	00321	126305R	JMP COMPR,I	
0236*				
0237	00322	000000	LBLIN NOP	
0238	00323	006400	CLB	
0239	00324	060161	LDA CUDSC	
0240	00325	050155	CPA SYSSC	
0241	00326	064115	LDB SYSBF	
0242	00327	074200	STB DISCL	
0243	00330	062334R	LDA .128	
0244	00331	006404	CLB,INB	
0245	00332	016004X	JSB LBLIO	
0246	00333	126322R	JMP LBLIN,I	
0247*				
0248	00334	000200	.128 DEC 128	
0249*				
0250	00335	000000	RPTSC NOP	
0251	00336	060161	LDA CUDSC	
0252	00337	032346R	IOR B60	
0253	00340	001727	ALF,ALF	
0254	00341	072354R	STA SCASC	
0255	00342	062347R	LDA SCMSG	
0256	00343	064042	LDB .-9	
0257	00344	016006X	JSB MESSG	OUTPUT *SUBCHAN = N*
0258	00345	126335R	JMP RPTSC,I	
0259*				
0260	00346	000060	B60 OCT 60	
0261	00347	000350R	SCMSG DEF **1	
0262	00350	051525	ASC 4,SUBCHAN*	
0263*				
0264	00354	000000	RESET NOP	
0265	00355	062365R	LDA SAVSC	REDTORE ORIGINAL SUBCHNL
0266	00356	070161	STA CUDSC	
0267	00357	062366R	LDA SVDCL	RESTORE LABEL TRK/SCTR
0268	00360	070200	STA DISCL	
0269	00361	060074	LDA M377	
0270	00362	070163	STA LSTSK	
0271	00363	072367R	STA STFLG	SET FLAG TO INDICATE NO CHANGE
0272	00364	126354R	JMP RESET,I	
0273*				
0274	00354		SCASC EQU RESET	
0275	00365	000000	SAVSC NOP	
0276	00366	000000	SVDCL NOP	
0277	00367	000000	STFLG NOP	
0278*				
0279	00000		A EQU 0	
0280	00001		B EQU 1	

0281	00053	.	EQU	538
0282	00074	M377	EQU	.,+17
0283	00075	M1774	EQU	.,+18
0284	00100	.	EQU	1008
0285	00115	SYSBF	EQU	.,+13
0286	00126	RONBF	EQU	.,+22
0287	00137	XIRT	EQU	RONBF+9
0288	00155	SYSSC	EQU	.,+45
0289	00156	LSTSC	EQU	.,+46
0290	00157	UDNTS	EQU	.,+47
0291	00161	CUDSC	EQU	.,+49
0292	00163	LSTSK	EQU	.,+51
0293	00176	SYSCD	EQU	.,+62
0294	00200	DISCL	EQU	.,+64
0295	00224	RQCNT	EQU	.,+84
0296	00225	RQRTN	EQU	.,+85
0297	00227	RQP2	EQU	.,+87
0298	00230	RQP3	EQU	.,+88
0299	00231	RQP4	EQU	.,+89
0300	00245	EXMOD	EQU	.,+101
0301	00262	SWAP	EQU	.,+114
0302	00274	\$MDBF	EQU	.,+124
0303	00305	TEMP0	EQU	.,+2058
0304	00305	TEMP	EQU	TEMP0
0305	00330	XFLG	EQU	.,+152
0306				END

** NO ERRORS*

\$B1	00006	00196					
\$B2	00006	00190	00193				
\$B3	00006	00225					
\$B4	00006	00229					
\$B5	00006	00233					
\$B64	00006	00161	00165				
SEX17	00009	00003	00025				
\$IRT	00007	00177					
\$MDBF	00302	00017	00192	00194			
\$MDLD	00004	00085	00184				
.	00281	00019	00032	00036	00070	00075	00084
	00114	00130	00207	00256	00282	00283	
.128	00248	00163	00243				
.19	00186	00183					
.	00284	00285	00286	00288	00289	00290	00291
	00292	00293	00294	00295	00296	00297	00298
	00299	00300	00301	00302	00303	00305	
PA	00279						
ASCB	00214	00201					
ASCDO	00212	00197					
ASCNR	00022	00014					
ASCPE	00023	00016					
ASCTS	00213	00200					
B	00280	00224	00228	00232			
B60	00260	00252					
COMPR	00223	00058	00095	00158	00227	00231	00234
	00235						
CUDSC	00291	00027	00050	00089	00150	00239	00251
	00266						
DEF04	00004	00082					

DEF19	00004	00181			
DFERR	00025	00041			
DFRST	00147	00151			
DISCL	00294	00029	00162	00242	00268
EXMOD	00300	00140	00143		
GNFLG	00211	00077	00079	00171	00195
ISLBL	00005	00054	00092	00126	
JPSET	00149	00037			
LBLIN	00237	00051	00090	00123	00153 00246
LBLIO	00005	00164	00245		
LBMSG	00135	00129			
LOD04	00077	00020	00173		
LOD19	00180	00039			
LSTLB	00129	00059			
LSTNL	00069	00064	00127		
LSTSC	00289	00043			
LSTSK	00292	00270			
LSTUD	00098	00109			
M1774	00283	00065	00107		
M377	00282	00269			
MESSE	00005	00071	00208	00257	
MSRST	00071	00115	00131	00147	
N17	00145	00141			
NDMSG	00217	00113			
NEQL	00111	00012	00096		
NOLAB	00106	00093			
NOLBL	00062	00055			
NOTSY	00165	00159			

NXSRC	00087	00112	00120			
PRMSG	00218	00204	00205	00206		
QBLNK	00216	00199	00202			
QMRKS	00215	00203				
RESET	00264	00018	00073	00272	00274	
RONBF	00286	00287				
RPTSC	00250	00100	00122	00258		
RQCNT	00295	00031				
RQP2	00297	00057	00062	00094	00106	00118
RQP3	00298	00046	00149			
RQP4	00299	00035				
RQRTN	00296	00174				
SAVSC	00275	00028	00265			
SBCHN	00104	00010	00047	00087	00111	00121
SCASC	00274	00254				
SCMSG	00261	00255				
SETXT	00155	00060	00067	00102		
STFLG	00277	00156	00176	00271		
SVDCL	00276	00030	00267			
SWAP	00301	00098				
SYCHK	00188	00052	00101	00124	00198	00209
SYDOS	00196	00191				
SYSBF	00285	00241				
SYSOD	00293	00189				
SYSSC	00288	00240				
TEMP	00304	00083	00182			
TEMP0	00303	00304				
UDISC	00041	00034				

UDLBL	00134	00053	00091	00125	
UDNTS	00290	00166			
ULMSG	00133	00069			
UPAST	00116	00066	00108		
USRCH	00118	00049			
XCLR	00139	00081	00144	00168	00180
XFLG	00305	00042	00080	00152	00170
XIRT	00287	00175			
XNTRY	00027	00009			
XSYS	00221	00157			

PAGE 0001

0001

ASMB,L,X,C,N,R,B

I/O CONTROL PROCESSOR MODULE (SE

** NO ERRORS*

```

0001      ASMB,L,X,C,N,R,B      I/O CONTROL PROCESSOR MODULE ($E
0002      00000      NAM $EX18,1
0003      ENT $EX18
0004      EXT ERR01,ERR03,ERR04,ERR05
0005      EXT LUCHK,$DMA,$MBSY,SETEQ
0006      EXT DEF04
0007      EXT $WAIT,DRIVR,ERRTN,$LDVR,IO.40
0008      EXT $MDLD,$BLOP
0009      EXT $IRT

```

0010*

0011***** INPUT/OUTPUT CONTROL PROCESSOR MODULE(\$EX18)

0012*

0013* THE INPUT/OUTPUT CONTROL MODULE IS RESPONSIBLE FOR CONTROLLING
 0014* ALL INPUT/OUTPUT DEVICES. IN ADDITION, IT ALLOCATES THE USE OF
 0015* THE TWO DMA CHANNELS.

0016* ALL I/O DRIVERS ARE INITIATED BY <IOC>. THE CONTINUATION OR
 0017* COMPLETION SECTION OF DRIVER IS CALLED BY <\$CIC> WHICH TURNS
 0018* CONTROL TO <\$IOCM> UPON RETURN FROM DRIVER WITH A PROCESSING
 0019* COMPLETED INDICATION.

0020* MULTIPLE DEVICES CAN BE DRIVEN BY THE SAME DRIVER SINCE THE
 0021* EQT ENTRY AREA IS USED FOR VARIABLE PARAMETER STORAGE.

0022* THE LOCATION, EITHER CORE RESIDENT OR DISC RESIDENT, OF A
 0023* DRIVER IS DETERMINED AT THE TIME THE SYSTEM IS GENERATED.

0024*

0025***** EQUIPMENT TABLE, DEVICE REFERENCE TABLE, INTERRUPT TABLE *****

0026*

0027* THE THREE TABLES CONTROL THE VARIOUS I/O DEVICES ON THE SYSTEM

0028*

0029* I. EQUIPMENT TABLE - THE EQUIPMENT TABLE IS COMPOSED OF A 17
 0030* WORD ARRAY FOR EACH DEVICE.

0031*

0032* WORD CONTENTS

0033*

0034*	1	DRIVER *INITIATION SECTION ADDRESS*
0035*	2	DRIVER *CONTINUATION SECTION ADDRESS*
0036*	3	D/R/UNIT#/CHANNEL#
0037*	4	A/TYPE/STATUS
0038*	5	RESERVED FOR SYSTEM USE
0039*	6	RESERVED FOR SYSTEM USE
0040*	7	REQUEST NORMAL RETURN
0041*	8	REQUEST CODE
0042*	9	REQUEST CONTROL WORD
0043*	10	REQUEST CONTROL WORD+1
0044*	11	REQUEST CONTROL WORD+2
0045*	12	REQUEST CONTROL WORD+3
0046*	13	REQUEST CONTROL WORD+4
0047*	14	TEMPORARY FOR DRIVER
0048*	15	UPPER MEMORY ADDRESS OF MAIN PROGRAM AREA
0049*	16	UPPER MEMORY ADDRESS OF BASE PAGE LINKAGE AREA
0050*	17	STARTING TRACK/SECTOR OF DRIVER ON DISC

0051*

0052* NOTE: WORDS 15,16, AND 17 ARE ZERO IF DRIVER IS CORE
 0053* RESIDENT.

0054*

0055* D = 1 IF A DMA CHANNEL IS REQUIRED

0056* R = 1 IF DRIVER IS RESIDENT

0057* UNIT# = OPTIONAL FOR DEVICES REQUIRING SUB CHAN DESIGN.
 0058* CHNL# = I/O SELECT CODE (LOWER # IF MULTIBOARD)
 0059* A = 0, UNIT AVAILABLE
 0060* = 1, UNIT DISABLED
 0061* = 2, UNIT CURRENTLY IN OPERATION
 0062* = 3, UNIT WAITING FOR DMA
 0063* TYPE = CODE IDENTIFYING TYPE OF I/O DEVICE
 0064* STATUS = UNIT STATUS AT END OF OPERATION
 0065*

0066* II. DEVICE REFERENCE TABLE (LOGICAL UNIT TABLE) - THE DEVICE
 0067* REFERENCE TABLE PROVIDES FOR LOGICAL ADDRESSING
 0068* OF PHYSICAL UNITS DEFINED IN THE EQUIPMENT TABLE
 0069* THIS TABLE CONSISTS OF 1-WORD ENTRIES CORRESPONDING
 0070* TO THE RANGE OF USER-SPECIFIED LOGICAL
 0071* UNITS. THE WORD CORRESPONDING TO A LOGICAL UNIT
 0072* IS THE RELATIVE POSITION OF THE EQT ENTRY
 0073* DEFINING THE ASSIGNED PHYSICAL UNIT,
 0074*

0075* CERTAIN LOGICAL UNIT #S ARE PERMANENTLY ASSIGNED

	#	ASSIGNMENT
0076*		
0077*		
0078*		
0079*	1	SYSTEM TELETYPE
0080*	2	SYSTEM DISC
0081*	3	RESERVED FOR SYSTEM USE
0082*	4	STANDARD PUNCH UNIT
0083*	5	STANDARD INPUT UNIT
0084*	6	STANDARD OUTPUT UNIT
0085*		
0086*	7	RESERVED
0087*	8	FOR
0088*	9	SYSTEM
0089*		
0090*	10	ASSIGNED
0091*	.	
0092*	.	BY
0093*	.	
0094*	63	USER
0095*		

0096* III. INTERRUPT TABLE - TABLE CORRESPONDING TO I/O INTERRUPT
 0097* CHANNELS AND EQUIPMENT ASSIGNMENTS

0099***** INPUT/OUTPUT REQUEST PROCESSING *****

0100*

0101* I/O REQUESTS INCLUDE COMMANDS FOR:

0102* 1. READING

0103* 2. WRITE

0104* 3. CONTROL

0105* 4. STATUS

0106* FROM/TO/OF AN IO DEVICE

0107*

0108* THE FORMAT IS IN THE GENERAL SYSTEM REQUEST FORMAT

0109*

0110* I/O REQUESTS ARE DIRECTED TO <IOC> AT -SIORQ- BY THE EXECUTIVE

0111* REQUEST PROCESSOR <EXEC>. USER REQUESTS CONTAIN POSITIVE REQUEST

0112* CODES AND SYSTEM REQUESTS CONTAIN NEGATIVE REQUEST CODES.

0113*

0114* ** A. STATUS REQUEST - THE *STATUS* REQUEST PROVIDES USER AND

0115* SYSTEM PROGRAMS WITH DEVICE CONDITIONS. THIS REQUEST

0116* SHOULD BE USED PRIOR TO MAKING A READ/WRITE/CONTROL

0117* REQUEST. THE SYSTEM STORES THE DEVICE STATUS IN THE

0118* SPECIFIED LOCATION AND RETURNS.

0119*

0120*

0121*

0122*	(P)	JSB	EXEC	CALL TO EXEC
0123*	(P+1)	DEF	**4 OR **5	DEFINE EXIT POINT
0124*	(P+2)	DEF	RCODE	DEFINE REQUEST CODE
0125*	(P+3)	DEF	CONWD	DEFINE CONTROL WORD
0126*	(P+4)	DEF	STATS	DEFINE STATUS ADDRESS
0127*	(P+5)	DEF	TLOG	DEFINE TRANSMISSION LOG
0128*	(P+6)	---		

0129*

0130* RCODE DEC 13 OR -13

0131* CONWD DEC LOGICAL UNIT #

0132* STATS NOP STORE DEVICE STATUS ADDRESS

0133* TLOG NOP STORE TRANSMISSION LOG OF LAST TRANSFE

0134*

0135*

0136* B. READ/WRITE REQUEST - THERE ARE 3 TYPES OF READ/WRITE REQUES

0137* 1. READ/WRITE ON DEVICE OTHER THAN DISC (RCODE=1 OR 2)

0138*

0139*	(P)	JSB	EXEC	CALL TO EXEC
0140*	(P+1)	DEF	**5	DEFINE EXIT POINT
0141*	(P+2)	DEF	RCODE	DEFINE REQUEST CODE
0142*	(P+3)	DEF	CONWD	DEFINE CONTROL WORD
0143*	(P+4)	DEF	BUFFR	DEFINE BUFFER ADDRESS
0144*	(P+5)	DEF	BUFFL	DEFINE BUFFER LENGTH
0145*	(P+6)	---		

0146*

0147* 2. READ/WRITE ON WORK AREA OF DISC (RCODE = 1 OR 2)

0148*

0149*	(P)	JSB	EXEC	CALL TO EXEC
0150*	(P+1)	DEF	**7	DEFINE EXIT POINT
0151*	(P+2)	DEF	RCODE	DEFINE REQUEST CODE
0152*	(P+3)	DEF	CONWD	DEFINE CONTROL WORD
0153*	(P+4)	DEF	BUFFR	DEFINE BUFFER ADDRESS
0154*	(P+5)	DEF	BUFFL	DEFINE BUFFER LENGTH

0155*	(P+6)	DEF DTRK	DEFINE DISC TRACK ADDRESS
0156*	(P+7)	DEF DSECT	DEFINE DISC SECTOR ADDRESS
0157*	(P+9)	---	

3. READ/WRITE ON USER AREA OF DISC (RCODE = 14 OR 15)

0163*	(P)	JSB EXEC	CALL TO EXEC
0164*	(P+1)	DEF *+7(OR 8)	DEFINE EXIT POINT
0165*	(P+2)	DEF RCODE	DEFINE REQUEST CODE
0166*	(P+3)	DEF CONWD	DEFINE CONTROL WORD
0167*	(P+4)	DEF BUFFER	DEFINE BUFFER ADDRESS
0168*	(P+5)	DEF BUFFL	DEFINE BUFFER LENGTH
0169*	(P+6)	DEF FNAME	DEFINE FILE NAME
0170*	(P+7)	DEF RSECT	DEFINE RELATIVE SECTOR
0171*	(P+8)	DEF OVFLD(OPTIONAL PARAMETER)	
0172*	(P+9)	---	

WHERE

CONWD FORMAT IS AS FOLLOWS:

BITS	CONTENTS
0-5	LOGICAL UNIT #
6	MODE SPECIFICATION
	0=ASCII
	1=BINARY
7	VARIABLE LENGTH INPUT CONTROL (PPT DEVICES)
	0=LENGTH DETERMINED BY BUFFER LENGTH
	1=LENGTH DETERMINED BY FIRST NON-ZERO CHARACTER READ
8	KEYBOARD INPUT PRINT SPECIFICATION
	0=DO NOT PRINT CHARACTERS AS RECEIVED
	1=PRINT CHARACTERS AS RECEIVED.
9	AVAILABLE
10	ABSOLUTE BINARY SPECIFICATION
	0=RELOCATABLE BIN IF BIT 6 & 7=1
	1=ABSOLUTE BINARY RECORD FORMAT IF BIT 6 & 7 = 1
11-12	AVAILABLE
13	WAIT OR CONTINUE OPTION
	0=WAIT TILL I/O OPERATION COMPLETE
	1=CONTINUE AFTER INITIATING I/O OPER.
14-15	MUST BE ZERO

RCODE IS 1,2,14,15 FOR USER CALLS
-1,-2 FOR SYSTEM CALLS

BUFFER IS ADDRESS OF BUFFER
BUFFL IS BUFFER LENGTH

+N FOR WORD COUNT
-N FOR CHARACTER COUNT

FNAME IS ADDRESS OF ASCII FILE NAME

RSECT IS RELATIVE SECTOR WITHIN A FILE (0 THRU N-1)

0211* OVFL0 IS THE NUMBER OF WORDS(+) OR CHARACTERS(-)
 0212* REMAINING IN THE FILE.

0213*
 0214* C. CONTROL REQUEST (RCODE = 3 OR -3)

0215*
 0216* (P) JSB EXEC
 0217* (P+1) DEF **3 OR **4 DEFINE EXIT ADDRESS
 0218* (P+2) DEF RCODE DEFINE REQUEST CODE
 0219* (P+3) DEF CONWD DEFINE CONTROL WORD
 0220* (P+4) DEF PARAM DEFINE PARAM ADD
 0221* (P+5) ---

0222*
 0223* CONWD FORMAT IS AS FOLLOWS:

0224*
 0225* BITS CONTENTS
 0226*
 0227* 0-5 LOGICAL UNIT #
 0228* 6-12 FUNCTION CODE
 0229* 00= CLEAR DEVICE
 0230* 01=WRITE END OF FILE * FOR
 0231* 02=BACKSPACE 1 RECORD * MAG
 0232* 03=FORWARD SPACE 1 RECORD * TAPE
 0233* 04=REWIND * UNITS
 0234* 05=REWIND STANDBY * ONLY
 0235*
 0236* 06=SET EOT STATUS FOR PPT INPUT
 0237* 07= -UNUSED-
 0238* 10=GENERATE LEADER FOR PAPER TAPE
 0239* 11=LIST OUTPUT LINE SPACING
 0240* 12 * CURRENTLY
 0241* * NOT
 0242* 177 * ASSIGNED
 0243* 13-15 MUST BE 0
 0244*
 0245*

0246 00000 006003 \$EX18 SZB,RSS INITIAL CALL IF NON=ZERO
 0247 00001 026505R JMP IO,45
 0248 00002 160227 LDA RQP2,I CHECK L, U. LEGALITY
 0249 00003 064161 LDB CUDSC CURRENT USER DISC SUBCHANNEL
 0250 00004 076135R STB SAVSC
 0251 00005 050050 CPA ..-3 IF = -3 SET POS FOR LUCHK
 0252 00006 003004 CMA,INA
 0253 00007 070235 STA REQLU SAVE POSITIVE CONWD
 0254 00010 016005X JSB LUCHK
 0255 00011 060235 LDA REQLU CHECK IF LUN SET TO NULL
 0256 00012 010072 AND M77 GET LUN ONLY
 0257 00013 040121 ADA LUTAB
 0258 00014 040052 ADA ..-1 SET POINTER TO LUTAB
 0259 00015 160000 LDA A,I A = EGT ENTRY
 0260 00016 002003 SZB,RSS NULL? (#0)
 0261 00017 026126R JMP LUNUL
 0262 00020 016111R JSB CLR CLEAR REQUEST?
 0263 00021 002001 RSS
 0264 00022 026033R JMP E18.1
 0265 00023 060206 LDA EGT4 YES.
 0266 00024 050333 CPA TYEQT SYSTEM TTY?

0267	00025	026001X	JMP ERR01	YES. CAN'T CLEAR IT
0268	00026	160206	LDA EQT4,I	GET EQUIP,TYPE
0269	00027	001727	ALF,ALF	
0270	00030	010072	AND M77	
0271	00031	052136R	CPA B31	CAN'T CLEAR DISC
0272	00032	026001X	JMP ERR01	
0273	00033	160206	E18.1 LDA EQT4,I	
0274	00034	001222	RAL,RAL	
0275	00035	000010	SLA	DEVICE DOWN?
0276	00036	026430R	JMP LOD04	-YES
0277	00037	160205	E18.2 LDA EQT3,I	
0278	00040	010072	AND M77	
0279	00041	072161R	STA RQCHN	
0280	00042	016137R	JSB ISCHN	COMPARE TO OTHER EQUIPMENTS
0281	00043	026055R	JMP IO,ZZ	CHAN COMPARES
0282	00044	062161R	LDA RQCHN	CHECK NEXT CHAN
0283	00045	002004	INA	
0284	00046	016137R	JSB ISCHN	COMPARE TO OTHER EQUIPMENTS
0285	00047	026055R	JMP IO,ZZ	CHAN COMPARES
0286	00050	060061	LDA .6	CHECK CHAN 6
0287	00051	016137R	JSB ISCHN	COMPARE TO OTHER EQUIPMENTS
0288	00052	026055R	JMP IO,ZZ	CHAN COMPARES
0289	00053	060062	LDA .7	CHECK CHAN 7
0290	00054	016137R	JSB ISCHN	COMPARE TO OTHER EQUIPMENTS
0291	00055	006005	IO,ZZ INB,RSS	
0292	00056	064206	LDB EQT4	NOT ASSIGNED - CHECK THIS EQT
0293	00057	160001	LDA B,I	CHECK AVAILABLE BITS
0294	00060	002021	SSA,RSS	
0295	00061	026162R	JMP IO,0Z	YES.
0296*				
0297	00062	016111R	JSB CLR	IS IT CLEAR DEVICE REQUEST?
0298	00063	026162R	JMP IO,0Z	YES - DON'T WAIT.
0299*				
0300	00064	060061	LDA .6	6 = DEVICE BUSY CODE.
0301	00065	016451R	JSB CHK0	
0302	00066	060140	IO,B LDA SVEQT	
0303	00067	016010X	JSB SETEQ	SET EQT ENTRIES FOR SBLOP
0304	00070	062161R	LDA RQCHN	
0305	00071	066073R	LDB IO,A	
0306	00072	026020X	JMP SBLOP	
0307	00073	000002R	IO,A DEF SEX18+2	RETURN WHEN DEVICE AVAILABLE
0308*				
0309	00074	016612R	IO,OK JSB RTRNX	FREE EXEC MOD AREA
0310	00075	062135R	LDA SAVSC	RESTORE CURRENT USER SUBCHANNEL
0311	00076	070161	STA CUDSC	
0312	00077	160213	LDA EQT9,I	CHECK IF I/O WITHOUT WAIT
0313	00100	001222	RAL,RAL	
0314	00101	002021	SSA,RSS	
0315	00102	026012X	JMP \$WAIT	
0316*				
0317	00103	060053	LDA ..	OPERATION INITIATED.
0318	00104	072461R	RETRN STA ECODE	SAVE A REG TEMPORARILY.
0319	00105	060225	LDA RQRTN	SET UP RETURN ADDR FOR \$IRT
0320	00106	070137	STA XIRT	
0321	00107	062461R	LDA ECODE	
0322	00110	026021X	JMP \$IRT	RESTORE A REG & RETURN.

```

0323*
0324*
0325 00111 000000 CLR NOP
0326 00112 160226 LDA RQP1,I * IF CLEAR DEVICE REQUEST,
0327 00113 002020 SSA *
0328 00114 003004 CMA,INA * I.E. REQ CODE = 3 &
0329 00115 050056 CPA .3 *
0330 00116 002001 RSS * CONTROL FUNCTION = 0,
0331 00117 026124R JMP CLR1 *
0332 00120 160227 LDA RQP2,I * THEN RETURN TO P+1, OR ELSE
0333 00121 012622R AND MSKCL *
0334 00122 002003 SZA,RSS * RETURN TO P+2
0335 00123 126111R JMP CLR,I *
0336 00124 036111R CLR1 ISZ CLR *
0337 00125 126111R JMP CLR,I *
0338*
0339 00126 060070 LUNUL LDA .15 CODE FOR NULL LUN
0340 00127 016451R JSB CHK0 PRIV. MODE?
0341 00130 016612R JSB RTRNX NO. FREE EXEC MOD AREA
0342 00131 006400 CLB SET TRANSMISSION LOG TO 0
0343 00132 062134R LDA EOT SET STATUS TO EOT
0344 00133 026104R JMP RETRN
0345 00134 000040 EOT OCT 40 EOT BIT SET IN BIT 5
0346 00135 000000 SAVSC NOP
0347 00136 000031 B31 OCT 31
0348*
0349 00137 000000 ISCHN NOP
0350 00140 040201 ADA INTAB
0351 00141 040045 ADA N6
0352 00142 050243 CPA EXLOC END OF INTERRUPT TABLE?
0353 00143 026156R JMP ISXT1 -YES, QUIT
0354 00144 072612R STA RTRNX
0355 00145 164000 LDB A,I
0356 00146 074140 STB SVEQT SAVE EQT1 ADDRESS
0357 00147 006003 SZB,RSS
0358 00150 026156R JMP ISXT1
0359 00151 044055 ADB .2
0360 00152 160001 LDA B,I
0361 00153 010072 AND M77
0362 00154 052161R CPA RQCHN
0363 00155 002001 RSS
0364 00156 036137R ISXT1 ISZ ISCHN
0365 00157 060203 LDA EQT1
0366 00160 126137R JMP ISCHN,I
0367 00161 000000 RQCHN NOP
0368 00162 062161R IO.0Z LDA RQCHN
0369 00163 016137R JSB ISCHN
0370 00164 172612R STA RTRNX,I
0371 00165 062161R LDA RQCHN
0372 00166 002004 INA
0373 00167 016137R JSB ISCHN
0374 00170 172612R STA RTRNX,I
0375 00171 160205 LDA EQT3,I CHECK IF DRIVER CORE RESIDENT
0376 00172 001226 RAL,ELA
0377 00173 064315 LDB IODMD CHECK IF IO DRIVER MOD AREA IN US
0378 00174 007061 CMB,SEZ,SSB,RSS

```

0379	00175	026406R	JMP IO.0	
0380	00176	060235	IO.38 LDA REQLU	GET POSITIVE CONWD
0381	00177	010072	AND M77	LUN 3 =,S REQUEST TO USER DISC
0382	00200	050056	CPA .3	
0383	00201	034162	ISZ CRFLG	SET FLAG TO INDICATE USER DISC
0384	00202	160226	LDA RQP1,I	CHECK IF SYSTEM REQUEST
0385	00203	002021	SSA,RSS	
0386	00204	026215R	JMP IO.5	NOT SYSTEM REQUEST
0387	00205	016470R	JSB ISDSC	CHECK IF DISC REQUEST
0388	00206	060316	LDA RCODE	-YES.
0389	00207	010063	AND .10B	USER FILE READ/WRITE?
0390	00210	002003	SZA,RSS	-YES.
0391	00211	026323R	JMP IO.10	-NO.
0392	00212	016612R	IO.39 JSB RTRNX	
0393	00213	026016X	JMP IO.40	
0394*				
0395	00214	000016	.14 DEC 14	
0396*				
0397*	USER REQUEST PROCESSING			
0398*				
0399	00215	060316	IO.5 LDA RCODE	CHECK IF CONTROL REQUEST CODE
0400	00216	050056	CPA .3	
0401	00217	026475R	JMP IO.30	YES, SO GO TO PROCESS
0402*				
0403*	PROCESS READ OR WRITE REQUEST PARAMETERS			
0404*				
0405	00220	064230	LDB RQP3	CHECK IF LEGAL BUFFER ADDRESS
0406	00221	007000	CMB	
0407	00222	044254	ADB UFWA	
0408	00223	006021	SSB,RSS	
0409	00224	026002X	JMP ERR03	BUF IN SYSTEM AREA
0410	00225	016602R	JSB NWDSX	
0411	00226	044230	ADB RQP3	
0412	00227	007044	CMB,SEZ,INB	
0413	00230	026003X	JMP ERR04	CORE WRAP AROUND ERROR
0414	00231	044100	ADB UMLWA	
0415	00232	006020	SSB	
0416	00233	026003X	JMP ERR04	CORE WRAP AROUND
0417	00234	016470R	JSB ISDSC	CHECK IF DISC REQUEST
0418	00235	060316	LDA RCODE	CHECK IF USER FILE READ OR WRITE
0419	00236	010063	AND .10B	
0420	00237	002002	SZA	
0421	00240	026212R	JMP IO.39	USER FILE READ/WRITE
0422*				
0423*	PROCESS DISC WORK FILE AREA READ/WRITE REQ			
0424*				
0425	00241	060154	LDA DISCO	
0426	00242	010076	AND M3777	
0427	00243	070307	STA TEMP2	
0428	00244	020154	XOR DISCO	ISOLATE SYSTEM DISC CHNL#
0429	00245	001722	ALF,RAL	AND ROTATE TO LO 8 BITS
0430	00246	006400	CLB	
0431	00247	052161R	CPA RQCHN	REQUEST ON SYSTEM CHNL?
0432	00250	002401	CLA,RSS	-YES
0433	00251	026273R	JMP IO.9	-NO, SKIP JBIN + NXTTS CHECK
0434	00252	064161	LDB CUDSC	GET CURRENT USER SUBCHNL

0435	00253	050162	CPA CRFLG	REQUEST ON USER DISC?
0436	00254	064155	LDB SYSSC	-NO, GET SYSTEM SUBCHNL
0437	00255	054155	CPB SYSSC	REQUEST ON SYSTEM SUBCHNL?
0438	00256	060102	LDA JBINC	GET LAST JBIN TRACK #
0439	00257	001727	ALF, ALF	
0440	00260	010074	AND M377	
0441	00261	040052	ADA N1	IS THERE A JBIN?
0442	00262	002021	SSA, RSS	-YES
0443	00263	070307	STA TEMP2	GET NEXT AVAIL. USER TRK/SCTR
0444	00264	060157	LDA UDNTS	REQUEST ON SYSTEM SUBCHNL?
0445	00265	054155	CPB SYSSC	-YES, GET SYSTEM NEXT TRK/SCTR
0446	00266	060160	LDA SYNTS	
0447	00267	040074	ADA M377	
0448	00270	001727	ALF, ALF	
0449	00271	010074	AND M377	
0450	00272	070001	STA B	CHECK TRACK LIMITS
0451	00273	160232	IO, 9 LDA RQP5, I	
0452	00274	010074	AND M377	
0453	00275	170232	STA RQP5, I	
0454	00276	003000	CMA	
0455	00277	040001	ADA B	
0456	00300	002021	SSA, RSS	NOT IN WORK AREA
0457	00301	026004X	JMP ERR05	CONVERT WORDS TO SECTORS
0458	00302	062601R	LDA NWDS	
0459	00303	040073	ADA M177	
0460	00304	001727	ALF, ALF	
0461	00305	001200	RAL	
0462	00306	010074	AND M377	
0463	00307	140233	ADA RQP6, I	ADD STARTING ADDRESS
0464	00310	040052	ADA N1	
0465	00311	006401	CLB, RSS	
0466	00312	006004	INB	
0467	00313	040313	ADA MSECT	
0468	00314	002021	SSA, RSS	
0469	00315	026312R	JMP *-3	
0470	00316	144232	ADB RQP5, I	EXCEEDS LAST DISC TRACK
0471	00317	007004	CMB, INB	CHECK FOR SECTOR # > 23
0472	00320	044307	ADB TEMP2	SET SECTOR# IN EQT13
0473	00321	006020	SSB	
0474	00322	026004X	JMP ERR05	
0475	00323	160233	IO, 10 LDA RQP6, I	
0476	00324	170217	STA EQT13, I	
0477	00325	040313	ADA MSECT	
0478	00326	002021	SSA, RSS	
0479	00327	026004X	JMP ERR05	YES: REPORT "IT" ERROR
0480	00330	160232	LDA RQP5, I	NO: START TRACK NUMBER
0481	00331	001727	ALF, ALF	
0482	00332	130233	IOR RQP6, I	START SECTOR #
0483	00333	164232	LDB RQP5, I	GET TRACK# FOR EQT12
0484	00334	070171	IO, 11 STA UBUFR	
0485	00335	060230	LDA RQP3	CORE ADDRESS
0486	00336	070172	STA UBUFR+1	
0487	00337	160231	LDA RQP4, I	WORD COUNT
0488	00340	070173	STA UBUFR+2	
0489	00341	060224	LDA RQCNT	
0490	00342	012621R	AND MSK6	CAN ONLY TAKE 6 OR 7 PARAMS

0491	00343	050061		CPA .6	
0492	00344	002001		RSS	
0493	00345	026001X		JMP ERR01	
0494	00346	062600R		LDA UBFR	GET UBUFR ADDRESS
0495	00347	170214	IO.14	STA EQT10,I	SET I/O BFR ADDRESS IN EQT10
0496	00350	174216		STB EQT12,I	SET TRACK# IN EQT12
0497	00351	160226	IO.16	LDA RQP1,I	
0498	00352	170212		STA EQT8,I	SET REQUEST CODE IN EQT8
0499	00353	060225		LDA RQRTN	
0500	00354	170211		STA EQT7,I	SET RETURN ADDRESS IN EQT7
0501	00355	160231		LDA RQP4,I	
0502	00356	170215		STA EQT11,I	SET BFR LENGTH IN EQT11.
0503	00357	064177		LDB JFLSC	GET JFILE SUBCHNL
0504	00360	160227		LDA RQP2,I	GET CONWA
0505	00361	050050		CPA .,-3	REQUEST FOR IFILE READ?
0506	00362	074161		STB CUDSC	-YES, SET JFLSC AS CUDSC
0507	00363	002020		SSA	
0508	00364	003004		CMA,INA	
0509	00365	170213		STA EQT9,I	SET POSITIVE CONWD IN EQT9
0510	00366	016013X	IO.15	JSB DRVR	CALL DRIVER INITIATION PROCESSOR
0511	00367	026074R		JMP IO.OK	OPERATION INITIATED
0512	00370	066135R		LDB SAVSC	RESTORE CURRENT USER SUBCHANNEL
0513	00371	074161		STB CUDSC	
0514	00372	016451R		JSB CHK0	PRIVILEGED MODE?
0515	00373	050060		CPA .5	NO. CHECK IF WAITING FOR DMA
0516	00374	026463R		JMP IO.18	
0517	00375	050055		CPA .2	CHECK IF CONTROL OPERATION REJECT
0518	00376	026421R		JMP IO.E	
0519	00377	050056		CPA .3	CHECK IF READ/WRITE ILLEGAL
0520	00400	026434R		JMP LOD05	-YES
0521	00401	050061		CPA .6	DOES DRIVER REQUIRE A WAIT?
0522	00402	026066R		JMP IO.B	
0523	00403	050057		CPA .4	CHECK IF NO ACTION RETURN
0524	00404	026421R		JMP IO.E	
0525	00405	026014X		JMP ERRTN	
0526*					
0527	00406	016111R	IO.D	JSB CLR	CLEAR REQUEST?
0528	00407	002001		RSS	YES.
0529	00410	026415R		JMP IO.D1	NO.
0530	00411	060315		LDA IODMD	IS THE DRIVER BUSY THE SAME
0531	00412	003004		CMA,INA	ONE FOR CLEAR REQUEST?
0532	00413	050203		CPA EQT1	
0533	00414	026176R		JMP IO.38	YES. - DON'T WAIT.
0534	00415	060062	IO.D1	LDA .7	7 = DRIVER AREA BUSY CODE.
0535	00416	016451R		JSB CHK0	
0536	00417	016007X		JSB \$MBSY	BIT 0 NOT SET. WAIT.
0537	00420	026176R		JMP IO.38	
0538*					
0539	00421	064133	IO.E	LDB MDFLG	BIT 15 OF MDFLG SET?
0540	00422	006020		SSB	
0541	00423	026455R		JMP CHK15	YES- SET RETURN CODE
0542	00424	016612R		JSB RTRNX	RELEASE EXEC MODULE
0543	00425	006400		CLB	
0544	00426	160206		LDA EQT4,I	
0545	00427	026104R		JMP RETRN	
0546*					

```

0547*
0548 00430 016111R LOD04 JSB CLR          CLEAR REQUEST?
0549 00431 026444R          JMP LOD06      YES, GO UP THE DEVICE
0550 00432 060056          LDA .3         CODE 3 = DEVICE DOWN.
0551 00433 016451R          JSB CHK0
0552 00434 060203 LOD05 LDA EQT1
0553 00435 070274          STA $MDBF
0554 00436 062011X          LDA DEF04
0555 00437 070305          STA TEMP
0556 00440 016612R          JSB RTRNX
0557 00441 066462R          LDB .18
0558 00442 060057          LDA .4
0559 00443 026017X          JMP $MDLD      LOAD IN EX04
0560*
0561 00444 160206 LOD06 LDA EQT4,I
0562 00445 012450R          AND UPBIT      CLEAR DOWN BIT
0563 00446 170206          STA EQT4,I
0564 00447 026037R          JMP E18.2     CONTINUE TO CLEAR DEVICE
0565 00450 137777 UPBIT OCT 137777
0566*
0567*
0568* SUBROUTINE TO CHECK IF BIT 0 OF MDPLG = 1. IF SO,
0569* RETURN TO USER, OTHERWISE RETURN TO L+1.
0570* ON ENTRY, A=REG MAY CONTAIN ERROR CODE 1 THRU 7.
0571*
0572 00451 000000 CHK0 NOP
0573 00452 064133          LDB MDPLG      BIT 0 OF MDPLG=1?
0574 00453 006011          SLB,RSS
0575 00454 126451R          JMP CHK0,I     NO. RETURN
0576 00455 072461R CHK15 STA ECODE      SAVE A-REG (ERROR CODE)
0577 00456 016612R          JSB RTRNX     YES, FREE MOD. AREA
0578 00457 062461R          LDA ECODE     SET A TO ERROR CODE
0579 00460 026104R          JMP RETRN    RETURN TO USER.
0580 00461 000000 ECODE NOP
0581*
0582 00462 000022 .18 DEC 18
0583*
0584 00463 062465R IO.18 LDA **2
0585 00464 026006X          JMP $DMA
0586 00465 000366R          DEF IO.15
0587*
0588 00466 037400 ETYPE OCT 37400
0589 00467 014400 DISC OCT 14400
0590*
0591 00470 000000 ISDSC NOP
0592 00471 160206          LDA EQT4,I
0593 00472 012466R          AND ETYPE
0594 00473 052467R          CPA DISC
0595 00474 126470R          JMP ISDSC,I
0596 00475 016015X IO.30 JSB $LDVR
0597 00476 060230          LDA RQP3
0598 00477 064316          LDB RCODE
0599 00500 054056          CPB .3
0600 00501 160230          LDA RQP3,I
0601 00502 006400          CLB
0602 00503 174217          STB EQT13,I

```

CALL TO LOAD IN I/O DRIVER
GET REQ BFR ADDRESS

CONTROL REQUEST
-YES, GET CONTROL PARAMETE


```

0503 00504 026347R      JMP IO.14
0604*      VERIFY THAT FULL REQUEST IS WITHIN FILE LIMITS
0605*
0606 00505 160233      IO.45 LDA RQP6,I      STARTING RELATIVE SECTOR #
0607 00506 002020      SSA                      NEGATIVE?
0608 00507 026004X      JMP ERR05          YES. ERROR
0609 00510 170217      STA EQT13,I      SET REL. SCTR# IN EQT13
0610 00511 003004      CMA,INA
0611 00512 040132      ADA RONBF+4      #SCTRS IN FILE
0612 00513 070307      STA TEMP2      TOTAL SECTOR - STARTING SECTOR
0613 00514 002003      SZA,RSS      STARTING REL SEC.TOO BIG?
0614 00515 026004X      JMP ERR05          YES. ERROR.
0615 00516 016602R      JSB NWDSX
0616 00517 060161      LDA CUDSC
0617 00520 072135R      STA SAVSC
0618 00521 062601R      LDA NWDS
0619 00522 040073      ADA M177      CONVERT TO #SECTORS
0620 00523 001727      ALF,ALF
0621 00524 001200      RAL
0622 00525 010074      AND M377
0623 00526 003004      CMA,INA
0624 00527 040307      ADA TEMP2
0625 00530 002020      SSA      SKIP IF WITHIN FILE LIMITS
0626 00531 026560R      JMP LMTER      OVERFLOW OCCURS.
0627*
0628*      IF 7 PARAMETERS, THEN CLEAR RQP7,I, TO INDICATE
0629*      NO OVERFLOW.
0630*
0631 00532 060224      LDA RQCNT
0632 00533 050061      CPA .6      6 PARAM?
0633 00534 026537R      JMP ++3      YES. GO ON.
0634 00535 002400      CLA      NO. CLEAR RQP7
0635 00536 170234      STA RQP7,I
0636*
0637 00537 060131      IO.46 LDA RONBF+3      FORM START TRK/SCTR
0638 00540 010075      AND M1774
0639 00541 070001      STA B
0640 00542 005727      BLF,BLF
0641 00543 020131      XOR RONBF+3
0642 00544 140233      ADA RQP6,I
0643 00545 040313      IO.50 ADA MSECT
0644 00546 002020      SSA
0645 00547 026552R      JMP IO.60
0646 00550 006004      INB
0647 00551 026545R      JMP IO.50
0648 00552 040116      IO.60 ADA SECTR
0649 00553 005727      BLF,BLF
0650 00554 030001      IOR B
0651 00555 064232      LDB RQP5
0652 00556 034162      ISZ CRFLG      SET FOR USER DISC REQUESTS
0653 00557 026334R      JMP IO.11
0654*
0655** IF OVERFLOW OCCURS, AND THERE ARE 7 PARAM, THEN
0656*      SET THE 7TH PARAM EQUAL TO THE NUMBER OF
0657*      WORDS(+) OR CHARACTERS(-) (AS DEFINED BY
0658*      BUFFER LENGTH) REMAINING IN THE FILE. IF THE

```

```

0659*      7TH PARAM IS OMITTED, THEN GO TO NORMAL
0660*      ERROR HANDLING PART.
0661*
0662  00560 060224  LMTER LDA RQCNT
0663  00561 050062      CPA .7          7 PARAM?
0664  00562 002001      RSS
0665  00563 026004X     JMP ERR05      NO. NORMAL ERROR HANDLING,
0666  00564 060307     LDA TEMP2      MAX # SECTORS CAN BE READ/WITTEN
0667  00565 001727     ALF,ALF        CONVERT TO # WORDS (*128)
0668  00566 001300     RAR
0669  00567 164231     LDB RQP4,I      WANT LENGTH IN # WORDS?
0670  00570 006021     SSB,RSS
0671  00571 026574R     JMP ++3        YES
0672  00572 001200     RAL            NO. CHANGE TO # CHARACTERS
0673  00573 003004     CMA,INA
0674  00574 170234     STA RQP7,I      STORE INTO LAST PARAMETER.
0675  00575 016612R     JSB RTRNX      FREE MOD. AREA
0676  00576 062462R     LDA .18       A=18: IT ERR CODE FOR PRIV,MODE RE
0677  00577 026104R     JMP RETRN      RETURN TO USER
0678*
0679  00600 000171  UBFR DEF UBUFR
0680  00601 000000  NWDS  NOP
0681*
0682  00602 000000  NWDSX NOP
0683  00603 164231     LDB RQP4,I      CHECK WORD COUNT
0684  00604 006121     CLE,SSB,RSS
0685  00605 026610R     JMP ++3
0686  00606 005100     BRS
0687  00607 007004     CMB,INB
0688  00610 076601R     STB NWDS
0689  00611 126602R     JMP NWDSX,I
0690*
0691  00612 000000  RTRNX NOP          FREE EX MODULE AREA
0692  00613 060245     LDA EXMOD
0693  00614 052620R     CPA N18
0694  00615 003004     CMA,INA
0695  00616 070245     STA EXMOD
0696  00617 126612R     JMP RTRNX,I
0697*
0698  00620 177756  N18  DEC -18
0699  00621 177776  MSK6  OCT 177776
0700  00622 007700  MSKCL OCT 7700    MASK OUT CONTROL FUNCTION

```

```

0702  00000      A      EQU 0
0703  00001      B      EQU 1

```

0704	00053	..	EQU	538
0705	00045	N6	EQU	..-6
0706	00052	N1	EQU	..-1
0707	00055	.2	EQU	..+2
0708	00056	.3	EQU	..+3
0709	00057	.4	EQU	..+4
0710	00060	.5	EQU	..+5
0711	00061	.6	EQU	..+6
0712	00062	.7	EQU	..+7
0713	00063	.108	EQU	..+8
0714	00070	.15	EQU	..+13
0715	00072	M77	EQU	..+15
0716	00073	M177	EQU	..+16
0717	00074	M377	EQU	..+17
0718	00075	M1774	EQU	..+18
0719	00076	M3777	EQU	..+19
0720	00100	.	EQU	1008
0721	00100	UMLWA	EQU	..+0
0722	00102	JBINC	EQU	..+2
0723	00116	SECTR	EQU	..+14
0724	00121	LUTAB	EQU	..+17
0725	00126	RONBF	EQU	..+22
0726	00137	XIRT	EQU	RONBF+9
0727	00140	SVEQT	EQU	RONBF+10
0728	00154	DISCO	EQU	..+44
0729	00155	SYSSC	EQU	..+45
0730	00157	UDNTS	EQU	..+47
0731	00160	SYNTS	EQU	..+48
0732	00161	CUDSC	EQU	..+49
0733	00162	CRFLG	EQU	..+50
0734	00171	UBUFR	EQU	..+57
0735	00177	JFLSC	EQU	..+63
0736	00201	INTAB	EQU	..+65
0737	00203	EQT1	EQU	..+67
0738	00205	EQT3	EQU	..+69
0739	00206	EQT4	EQU	..+70
0740	00211	EQT7	EQU	..+73
0741	00212	EQT8	EQU	..+74
0742	00213	EQT9	EQU	..+75
0743	00214	EQT10	EQU	..+76
0744	00215	EQT11	EQU	..+77
0745	00216	EQT12	EQU	..+78
0746	00217	EQT13	EQU	..+79
0747	00224	ROCNT	EQU	..+84
0748	00225	RQRTN	EQU	..+85
0749	00226	RQP1	EQU	..+86
0750	00227	RQP2	EQU	..+87
0751	00230	RQP3	EQU	..+88
0752	00231	RQP4	EQU	..+89
0753	00232	RQP5	EQU	..+90
0754	00233	RQP6	EQU	..+91
0755	00234	RQP7	EQU	..+92
0756	00235	REQLU	EQU	..+93
0757	00243	EXLOC	EQU	..+99
0758	00245	EXMOD	EQU	..+101
0759	00254	UMFWA	EQU	..+108

STARTING ADDR OF SYSTEM COMMUN,
LWA OF USEABLE MEMORY
CURRENT TR/SEC OF JBIN AREA

IO CHNL #/ LAST TRACK ON DISC

CURRENT USER DISC SUBCHANNEL
CURRENT REQUEST SUBCHANNEL
USER DISC TRIPLET PARAM BUFFER
JFILE SUBCHANNEL
START ADDRESS OF INTERRUPT TABLE
ADDRESSES
OF

EQUIPMENT

TABLE

ENTRY

OF REQUEST PARAMETERS
REQUEST RETURN ADDRESS
ADDRESSES

OF

REQUEST

CURRENT EX MODULE NUMBER
FWA OF USER MAIN AREA

```

0760*
0761 00274 $MDBF EQU .+124
0762 00305 TEMP0 EQU .+205B
0763 00305 TEMP EQU TEMP0
0764 00307 TEMP2 EQU .+135
0765 00313 MSECT EQU .+139
0766 00314 VADR EQU .+140
0767 00315 IQDMD EQU .+141
0768 00316 RCODE EQU .+142
0769 00133 MDPLG EQU .+33B
0770 00333 TYEQT EQU .+155
0771      END
** NO ERRORS*

```

NEG OF SECTORS/CYC VALUE =-24

RES I/O DRIVER MODULE FLAG

\$BLOP	00008/02	00306/02							
\$DMA	00005/02	00585/02							
\$EX18	00246/02	00003/02	00307/02						
\$IRT	00009/02	00322/02							
\$LDVR	00007/02	00596/02							
\$MBSY	00005/02	00536/02							
\$MDBF	00761/02	00553/02							
\$MOLD	00008/02	00559/02							
\$WAIT	00007/02	00315/02							
.	00720/02	00721/02	00722/02	00723/02	00724/02	00725/02	00728/02		
	00729/02	00730/02	00731/02	00732/02	00733/02	00734/02	00735/02		
	00736/02	00737/02	00738/02	00739/02	00740/02	00741/02	00742/02		
	00743/02	00744/02	00745/02	00746/02	00747/02	00748/02	00749/02		
	00750/02	00751/02	00752/02	00753/02	00754/02	00755/02	00756/02		
	00757/02	00758/02	00759/02	00761/02	00762/02	00764/02	00765/02		
	00766/02	00767/02	00768/02	00769/02	00770/02				
..	00704/02	00251/02	00258/02	00317/02	00505/02	00705/02	00706/02		
	00707/02	00708/02	00709/02	00710/02	00711/02	00712/02	00713/02		
	00714/02	00715/02	00716/02	00717/02	00718/02	00719/02			
.108	00713/02	00389/02	00419/02						
.14	00395/02								
.15	00714/02	00339/02							
.18	00582/02	00557/02	00676/02						
.2	00707/02	00359/02	00517/02						
.3	00708/02	00329/02	00382/02	00400/02	00519/02	00550/02	00599/02		
.4	00709/02	00523/02	00558/02						
.5	00710/02	00515/02							
.6	00711/02	00286/02	00300/02	00491/02	00521/02	00632/02			
.7	00712/02	00289/02	00534/02	00663/02					
A	00702/02	00259/02	00355/02						
B	00703/02	00293/02	00360/02	00450/02	00455/02	00639/02	00650/02		
B31	00347/02	00271/02							

CHK0 00572/02 00301/02 00340/02 00514/02 00535/02 00551/02 00575/02
CHK15 00576/02 00541/02
CLR 00325/02 00262/02 00297/02 00335/02 00336/02 00337/02 00527/02
00548/02
CLR1 00336/02 00331/02
CRFLG 00733/02 00383/02 00435/02 00652/02
CUDSC 00732/02 00249/02 00311/02 00434/02 00506/02 00513/02 00616/02
DEF04 00006/02 00554/02
DISC 00589/02 00594/02
DISCO 00728/02 00425/02 00428/02
DRIVR 00007/02 00510/02
E18.1 00273/02 00264/02
E18.2 00277/02 00564/02
ECODE 00580/02 00318/02 00321/02 00576/02 00578/02
EOT 00345/02 00343/02
EQT1 00737/02 00365/02 00532/02 00552/02
EQT10 00743/02 00495/02
EQT11 00744/02 00502/02
EQT12 00745/02 00496/02
EQT13 00746/02 00476/02 00602/02 00609/02
EQT3 00738/02 00277/02 00375/02
EQT4 00739/02 00265/02 00268/02 00273/02 00292/02 00544/02 00561/02
00563/02 00592/02
EQT7 00740/02 00500/02
EQT8 00741/02 00498/02
EQT9 00742/02 00312/02 00509/02
ERR01 00004/02 00267/02 00272/02 00493/02
ERR03 00004/02 00409/02
ERR04 00004/02 00413/02 00416/02

ERR05 00004/02 00457/02 00474/02 00479/02 00608/02 00614/02 00665/02
ERRTN 00007/02 00525/02
ETYPE 00588/02 00593/02
EXLOC 00757/02 00352/02
EXMOD 00758/02 00692/02 00695/02
INTAB 00736/02 00350/02
IO.0Z 00368/02 00295/02 00298/02
IO.10 00475/02 00391/02
IO.11 00484/02 00653/02
IO.14 00495/02 00603/02
IO.15 00510/02 00586/02
*IO.16 00497/02
IO.18 00584/02 00516/02
IO.30 00596/02 00401/02
IO.38 00380/02 00533/02 00537/02
IO.39 00392/02 00421/02
IO.40 00007/02 00393/02
IO.45 00606/02 00247/02
*IO.46 00637/02
IO.5 00399/02 00386/02
IO.50 00643/02 00647/02
IO.60 00648/02 00645/02
IO.9 00451/02 00433/02
IO.A 00307/02 00305/02
IO.B 00302/02 00522/02
IO.D 00527/02 00379/02
IO.D1 00534/02 00529/02
IO.E 00539/02 00518/02 00524/02

IO.OK 00309/02 00511/02
IO.ZZ 00291/02 00281/02 00285/02 00288/02
IODMO 00767/02 00377/02 00530/02
ISCHN 00349/02 00280/02 00284/02 00287/02 00290/02 00364/02 00366/02
00369/02 00373/02
ISDSC 00591/02 00387/02 00417/02 00595/02
ISXT1 00364/02 00353/02 00358/02
JBINC 00722/02 00438/02
JFLSC 00735/02 00503/02
LMTER 00662/02 00626/02
LOD04 00548/02 00276/02
LOD05 00552/02 00520/02
LOD06 00561/02 00549/02
LUCHK 00005/02 00254/02
LUNUL 00339/02 00261/02
LUTAB 00724/02 00257/02
M177 00716/02 00459/02 00619/02
M1774 00718/02 00638/02
M377 00717/02 00440/02 00447/02 00449/02 00452/02 00462/02 00622/02
M3777 00719/02 00426/02
M77 00715/02 00256/02 00270/02 00278/02 00361/02 00381/02
MDFLG 00769/02 00539/02 00573/02
MSECT 00765/02 00467/02 00477/02 00643/02
MSK6 00699/02 00490/02
MSKCL 00700/02 00333/02
N1 00706/02 00441/02 00464/02
N18 00698/02 00693/02
N6 00705/02 00351/02

NNDS	00680/02	00458/02	00618/02	00688/02			
NWDSX	00682/02	00410/02	00615/02	00689/02			
RCODE	00768/02	00388/02	00399/02	00418/02	00598/02		
REQLU	00756/02	00253/02	00255/02	00380/02			
RETRN	00318/02	00344/02	00545/02	00579/02	00677/02		
RONBF	00725/02	00611/02	00637/02	00641/02	00726/02	00727/02	
RQCHN	00367/02	00279/02	00282/02	00304/02	00362/02	00368/02	00371/02
	00431/02						
RQCNT	00747/02	00489/02	00631/02	00662/02			
RQP1	00749/02	00326/02	00384/02	00497/02			
RQP2	00750/02	00248/02	00332/02	00504/02			
RQP3	00751/02	00405/02	00411/02	00485/02	00597/02	00600/02	
RQP4	00752/02	00487/02	00501/02	00669/02	00683/02		
RQP5	00753/02	00451/02	00453/02	00470/02	00480/02	00483/02	00651/02
RQP6	00754/02	00463/02	00475/02	00482/02	00606/02	00642/02	
RQP7	00755/02	00635/02	00674/02				
RQRTN	00748/02	00319/02	00499/02				
RTRNX	00691/02	00309/02	00341/02	00354/02	00370/02	00374/02	00392/02
	00542/02	00556/02	00577/02	00675/02	00696/02		
SAVSC	00346/02	00250/02	00310/02	00512/02	00617/02		
SECTR	00723/02	00648/02					
SETEQ	00005/02	00303/02					
SVEQT	00727/02	00302/02	00356/02				
SYNTS	00731/02	00446/02					
SYSSC	00729/02	00436/02	00437/02	00445/02			
TEMP	00763/02	00555/02					
TEMP0	00762/02	00763/02					
TEMP2	00764/02	00427/02	00443/02	00472/02	00612/02	00624/02	00666/02
TYEQT	00770/02	00266/02					

UBFR 00679/02 00494/02
UBUFR 00734/02 00484/02 00486/02 00488/02 00679/02
UDNTS 00730/02 00444/02
UMFWA 00759/02 00407/02
UMLWA 00721/02 00414/02
UPBIT 00565/02 00562/02
•VADR 00766/02
XIRT 00726/02 00320/02

PAGE 0001

0001

** NO ERRORS*

ASMB,L,X,C,N,R,B

PROCESS :IN DIRECTIVE (SEX19)

```

0001          ASMB,L,X,C,N,R,B      PROCESS :IN DIRECTIVE ($EX19)
0002 000000      NAM $EX19,1
0003          ENT $EX19
0004          EXT $SYIO,$WAIT,$DISC
0005          EXT LBLIO,ISLBL,LBLMV,CHSUM,MESSG
0006          EXT $B1,$B2,$B3,$B4,$B5,$B31,$B64,$B65
0007          EXT $B66,$B95,$B128,$BUF
0008          EXT $IRT
0009*
0010 00000 060200 $EX19 LDA DISCL
0011 00001 072367R      STA SVDCL      SAVE LABEL TRK/SCTR
0012*
0013* RESOLVE ADDRESS OF $BUF
0014*
0015 00002 062124R      LDA DFLBL
0016 00003 002001      RSS
0017 00004 160000      LDA 0,I
0018 00005 001275      RAL,CLE,SLA,ERA
0019 00006 026004R      JMP *-2
0020 00007 072124R      STA DFLBL      ADDRESS OF $BUF+3
0021 00010 042126R      ADA .92
0022 00011 072125R      STA XSYLB      ADDRESS OF $BUF+95

0024 00012 064161      LDB CUDSC
0025 00013 002400      CLA
0026 00014 072370R      STA NEWDR
0027 00015 072371R      STA TRCNT
0028 00016 054155      CPB SYSSC
0029 00017 062367R      LDA SVDCL
0030 00020 070200      STA DISCL
0031 00021 062225R      LDA .128
0032 00022 006404      CLB,INB
0033 00023 016004X      JSB LBLIO      GET LABEL SECTOR
0034 00024 062136R      LDA INLBL
0035 00025 016005X      JSB ISLBL      IS IT ALREADY LABELED
0036 00026 002301      CCE,RSS        -NO, GO LABEL IT
0037 00027 026166R      JMP OKGO      -YES, GO ASK *OK TO PURGE*
0038*
0039 00030 066131R OKPRG LDB ASCLB
0040 00031 160227      LDA RQP2,I
0041 00032 010075      AND M1774
0042 00033 052127R      CPA UPAST
0043 00034 006500      CLB,CLE
0044 00035 076024X      STB $BUF
0045 00036 062133R      LDA ASCSY
0046 00037 052013X      CPA $B3
0047 00040 066014X      LDB $B4
0048 00041 056134R      CPB ASCSY+1
0049 00042 062015X      LDA $B5
0050 00043 052135R      CPA ASCSY+2
0051 00044 026230R      JMP SYLBL
0052*
0053 00045 062132R NOTSY LDA ASCDO
0054 00046 052011X      CPA $B1      DOS DISC?
0055 00047 002001      RSS          -YES
0056 00050 026317R      JMP NWLBL      -NO

```

0057	00051	060176	LDA SYSCD	
0058	00052	072012X	STA \$B2	SET SYSTEM GENERATION CODE
0059	00053	060227	LDA RQP2	
0060	00054	066124R	LDB DFLBL	
0061	00055	016006X	JSB LBLMV	SET REQUEST LABEL
0062	00056	016007X	JSB CHSUM	COMPUTE CHECKSUM
0063	00057	072016X	STA \$B31	AND SET
0064	00060	060200	LDA DISCL	
0065	00061	042130R	ADA .400	
0066	00062	066024X	LDB \$BUF	
0067	00063	006002	SZB	
0068	00064	062017X	LDA \$B64	
0069	00065	072017X	STA \$B64	
0070	00066	070157	STA UDNTS	
0071	00067	064161	LDB CUDSC	
0072	00070	054155	CPB SYSSC	
0073	00071	070160	STA SYNTS	
0074	00072	062225R	LDA .128	
0075	00073	066024X	LDB \$BUF	
0076	00074	006003	SZB,RSS	UNLABLING?
0077	00075	002004	INA	
0078	00076	076023X	STB \$B128	
0079	00077	064055	LDB .+2	OUTPUT LABEL
0080	00100	016004X	JSB LBLIO	
0081	00101	060161	LDA CUDSC	
0082	00102	050175	CPA GUDSC	NEW S/C = DEFAULT S/C?
0083	00103	006405	CLB,INB,RSS	-YES
0084	00104	026357R	JMP EXIT	
0085	00105	060155	LDA SYSSC	
0086	00106	070161	STA CUDSC	
0087	00107	060115	LDA SYSBF	
0088	00110	070200	STA DISCL	
0089	00111	062225R	LDA .128	
0090	00112	016004X	JSB LBLIO	GET SYS BFR SECTOR
0091	00113	060227	LDA RQP2	
0092	00114	066125R	LDB XSYLB	
0093	00115	016006X	JSB LBLMV	MOVE LABEL TO SAVE AREA
0094	00116	062225R	LDA .128	
0095	00117	064055	LDB .+2	
0096	00120	016004X	JSB LBLIO	OUTPUT SYS BFR SECTOR
0097	00121	060175	LDA GUDSC	
0098	00122	070161	STA CUDSC	
0099	00123	026355R	JMP EXIT1	RESTORE NEW USER SUBCHNL
0100*				
0101	00124	000013X	DFLBL DEF \$B3	ADDRESS OF \$BUF+3
0102	00125	000000	XSYLB NOP	ADDRESS OF \$BUF+95
0103	00126	000134	.92 DEC 92	
0104	00127	025000	UPAST OCT 025000	
0105	00130	000400	.400 OCT 400	
0106	00131	046102	ASCLB ASC 1,LB	
0107	00132	042117	ASCD0 ASC 1,DO	
0108	00133	051531	ASCSY ASC 3,SYSTEM	
	00134	051524		
	00135	042515		
0109	00136	000145R	INLBL DEF **7	
0110	00137	000140R	INMSG DEF **1	

```

0111 00140 0000000 BSS 2
0112 00142 046101 ASC 3,LABEL
      00143 041105
      00144 046040
0113 00145 0000000 BSS 3
0114 00150 000151R OKMSG DEF **1
0115 00151 047513 ASC 6,OK TO PURGE?
      00152 020124
      00153 047440
      00154 050125
      00155 051107
      00156 042477
0116 00157 052123 ASCTS ASC 1,TS
0117 00160 041040 ASCB ASC 1,B
0118 00161 051440 ASCS ASC 1,S
0119 00162 037477 QMRKS ASC 1,??
0120 00163 037440 QBLNK ASC 1,?
0121 00164 177760 N16 DEC -16
0122 00165 177764 N12 DEC -12
0123*
0124 00166 062011X OKGO LDA $B1 *
0125 00167 072140R STA INMSG+1 * SET
0126 00170 066163R LDB QBLNK * *DOS*
0127 00171 052132R CPA ASCDO * OR
0128 00172 066161R LDB ASCS * *TSB*
0129 00173 052157R CPA ASCTS * IN
0130 00174 066160R LDB ASCB * MESSAGE
0131 00175 056163R CPB QBLNK *
0132 00176 062162R LDA QMRKS *
0133 00177 076141R STB INMSG+2 *
0134 00200 062137R LDA INMSG
0135 00201 066164R LDB N16
0136 00202 016010X JSB MESSG OUTPUT 1ST MESSAGE
0137 00203 062150R OKRPT LDA OKMSG
0138 00204 066165R LDB N12
0139 00205 016010X JSB MESSG OUTPUT *OK TO PURGE*
0140 00206 016001X JSB $SYIO
0141 00207 000001 DEC 1
0142 00210 000401 OCT 401
0143 00211 000372R DEF REPLY
0144 00212 177776 DEC -2
0145 00213 000215R DEF **2
0146 00214 026002X JMP $WAIT
0147 00215 062372R LDA REPLY GET RESPONSE
0148 00216 052223R CPA ASCYE ANSWER YES?
0149 00217 026030R JMP OKPRG -YES, GO LABEL
0150 00220 052224R CPA ASCNO ANSWER NO?
0151 00221 026355R JMP EXIT1 -YES
0152 00222 026203R JMP OKRPT -NO, GO REPEAT MESSAGE
0153*
0154 00223 054505 ASCYE ASC 1,YE
0155 00224 047117 ASCNO ASC 1,NO
0156 00225 000200 .128 DEC 128
0157 00226 000000 OLDDR NOP
0158 00227 000000 SYTRK NOP
0159*

```

0160	00230	006445	SYLBL	CLR, SEZ, INB, RSS	
0161	00231	026045R		JMP NOTSY	
0162	00232	062367R		LDA SVDCL	
0163	00233	072226R		STA OLDDR	
0164	00234	070200		STA DISCL	
0165	00235	001727		ALF, ALF	
0166	00236	072227R		STA SYTRK	
0167	00237	072371R		STA TRCNT	
0168	00240	062225R		LDA .128	
0169	00241	016004X		JSB LBLIO	
0170	00242	062017X		LDA \$B64	SAVE USER NEXT TRK/SCTR
0171	00243	072313R		STA SVUTS	
0172	00244	062020X		LDA \$B65	SAVE BAD TRACK COUNT
0173	00245	072314R		STA SVBAD	
0174	00246	062021X		LDA \$B66	SAVE NEXT AVAIL. SPARE TRK
0175	00247	072315R		STA SVSPR	
0176	00250	060313		LDA MSECT	
0177	00251	002004		INA	
0178	00252	072316R		STA CNTR	SET DRCTRY SECTOR COUNTER
0179	00253	036226R	SLOOP	ISZ OLDDR	
0180	00254	036370R		ISZ NEWDR	
0181	00255	062226R		LDA OLDDR	
0182	00256	070200		STA DISCL	
0183	00257	062225R		LDA .128	
0184	00260	006404		CLB, INB	READ DRCTRY SECTOR
0185	00261	016004X		JSB LBLIO	
0186	00262	062370R		LDA NEWDR	
0187	00263	070200		STA DISCL	
0188	00264	062225R		LDA .128	
0189	00265	064055		LDB .+2	WRITE DRCTRY SECTOR IN TRK 0
0190	00266	016004X		JSB LBLIO	
0191	00267	066371R		LDB TRCNT	
0192	00270	046227R		ADB SYTRK	
0193	00271	076371R		STB TRCNT	INCR. SYST. SCTR COUNTER
0194	00272	036316R		ISZ CNTR	
0195	00273	026253R		JMP SLOOP	
0196*					
0197	00274	070200		STA DISCL	
0198	00275	062225R		LDA .128	
0199	00276	006404		CLB, INB	READ TRK 0, SCTR 0
0200	00277	016004X		JSB LBLIO	
0201	00300	066367R		LDB SVDCL	
0202	00301	072013X		STA \$B3	
0203	00302	072367R		STA SVDCL	
0204	00303	007004		CMB, INB	
0205	00304	046313R		ADB SVUTS	SUBTRACT SYST. SIZE FROM USER
0206	00305	076017X		STB \$B64	NEXT TRK/SCTR AND SET
0207	00306	062314R		LDA SVBAD	
0208	00307	072020X		STA \$B65	
0209	00310	062315R		LDA SVSPR	
0210	00311	072021X		STA \$B66	
0211	00312	026030R		JMP OKPRG	
0212*					
0213	00313	000000	SVUTS	NOP	
0214	00314	000000	SVBAD	NOP	
0215	00315	000000	SVSPR	NOP	

0216	00316	000000	CNTR	NOP	
0217*					
0218	00317	072011X	NWLBL	STA \$B1	
0219	00320	002400		CLA	
0220	00321	070327		STA #BDTR	CLEAR BAD TRACK COUNT
0221	00322	062353R		LDA N203	
0222	00323	072316R		STA CNTR	SET TO READ ALL TRACKS
0223	00324	062316R	NXTRK	LDA CNTR	
0224	00325	003000		CMA	
0225	00326	001727		ALF, ALF	
0226	00327	070166		STA PARAM	SET TRK/SCTR
0227	00330	062351R		LDA DEFBF	
0228	00331	070167		STA PARAM+1	SET ADDR OF 1-WORD BFR
0229	00332	003400		CCA	
0230	00333	070170		STA PARAM+2	SET WORD COUNT=1
0231	00334	062350R		LDA XPARAM	
0232	00335	006404		CLB, INB	
0233	00336	016003X		JSB \$DISC	READ 1ST WORD OF TRACK
0234	00337	036316R		ISZ CNTR	INCREMENT TRACK COUNTER
0235	00340	026324R		JMP NXTRK	GO READ NEXT TRACK
0236	00341	064327		LDB #BDTR	GET BAD TRK COUNT (SET BY DVR31)
0237	00342	076020X		STB \$B65	SET BAD TRK COUNT IN LBL SCTR
0238	00343	046353R		ADB N203	
0239	00344	007000		CMB	
0240	00345	076021X		STB \$B66	SET NEXT AVAIL. SPARE TRK
0241	00346	070327		STA #BDTR	CLEAR BAD TRACK COUNT
0242	00347	026045R		JMP NOTSY	
0243*					
0244	00350	000166	XPARAM	DEF PARAM	
0245	00351	000352R	DEFBF	DEF ++1	
0246	00352	000000		NOP	
0247	00353	177465	N203	DEC -203	
0248	00354	177755	N19	DEC -19	
0249*					
0250	00355	062367R	EXIT1	LDA SVDCL	RESTORE
0251	00356	070200		STA DISCL	DISC LABEL
0252	00357	060225	EXIT	LDA RQRIN	SET UP TRANSFER ADDRESS
0253	00360	070137		STA XIRT	
0254	00361	062371R		LDA TRCNT	
0255	00362	064245		LDB EXMOD	
0256	00363	056354R		CPB N19	
0257	00364	007004		CMB, INB	
0258	00365	074245		STB EXMOD	
0259	00366	026025X		JMP \$IRT	
0260*					
0261	00367	000000	SVDCL	NOP	
0262	00370	000000	NEWDR	NOP	
0263	00371	000000	TRCNT	NOP	
0264	00372	000000	SAVGO	NOP	
0265	00372		REPLY	EQU SAVGO	
0266*					
0267	00000		A	EQU 0	
0268	00001		B	EQU 1	
0269	00053		.	EQU 538	
0270	00075		M1774	EQU .+18	
0271	00100		.	EQU 1008	

0272	00115	SYSBF	EQU	*+13
0273	00126	RONBF	EQU	*+22
0274	00137	XIRT	EQU	RONBF+9
0275	00155	SYSSC	EQU	*+45
0276	00157	UDNTS	EQU	*+47
0277	00160	SYNTS	EQU	*+48
0278	00161	CUDSC	EQU	*+49
0279	00166	PARAM	EQU	*+54
0280	00175	GUDSC	EQU	*+61
0281	00176	SYSCD	EQU	*+62
0282	00200	DISCL	EQU	*+64
0283	00225	RQRTN	EQU	*+85
0284	00227	RQP2	EQU	*+87
0285	00245	EXMOD	EQU	*+101
0286	00313	MSECT	EQU	*+139
0287	00327	#BDTR	EQU	*+151
0288			END	

*** NO ERRORS*

#BDTR	00287	00220	00236	00241			
\$B1	00006	00054	00124	00218			
\$B128	00007	00078					
\$B2	00006	00058					
\$B3	00006	00046	00101	00202			
\$B31	00006	00063					
\$B4	00006	00047					
\$B5	00006	00049					
\$B64	00006	00068	00069	00170	00206		
\$B65	00006	00172	00208	00237			
\$B66	00007	00174	00210	00240			
*\$B95	00007						
\$BUF	00007	00044	00066	00075			
\$DISC	00004	00233					
\$EX19	00010	00003					
\$IRT	00008	00259					
\$SYIO	00004	00140					
\$WAIT	00004	00146					
.	00269	00079	00095	00189	00270		
.128	00156 00188	00031 00198	00074	00089	00094	00168	00183
.400	00105	00065					
.92	00103	00021					
*	00271 00279 00286	00272 00280 00287	00273 00281	00275 00282	00276 00283	00277 00284	00278 00285
*A	00267						
ASCB	00117	00130					
ASCD0	00107	00063	00127				

ASCLB	00106	00039					
ASCNO	00155	00150					
ASCS	00118	00128					
ASCSY	00108	00045	00048	00050			
ASCTS	00116	00129					
ASCYE	00154	00148					
•B	00268						
CHSUM	00005	00062					
CNTR	00216	00178	00194	00222	00223	00234	
CUDSC	00278	00024	00071	00081	00086	00098	
DEFBF	00245	00227					
DFLBL	00101	00015	00020	00060			
DISCL	00282 00187	00010 00197	00030 00251	00064	00088	00164	00182
EXIT	00252	00084					
EXIT1	00250	00099	00151				
EXMOD	00285	00255	00258				
GUDSC	00280	00082	00097				
INLBL	00109	00034					
INMSG	00110	00125	00133	00134			
ISLBL	00005	00035					
LBLID	00005 00190	00033 00200	00080	00090	00096	00169	00185
LBLMV	00005	00061	00093				
M1774	00270	00041					
MESSG	00005	00136	00139				
MSECT	00286	00176					
N12	00122	00138					
N16	00121	00135					

N19	00246	00256					
N203	00247	00221	00238				
NEWDR	00262	00026	00180	00186			
NOTSY	00053	00161	00242				
NWLBL	00218	00056					
NXTRK	00223	00235					
OKGO	00124	00037					
OKMSG	00114	00137					
OKPRG	00039	00149	00211				
OKRPT	00137	00152					
OLDDR	00157	00163	00179	00181			
PARAM	00279	00226	00228	00230	00244		
QBLNK	00120	00126	00131				
QMRKS	00119	00132					
REPLY	00265	00143	00147				
RONBF	00273	00274					
RQP2	00284	00040	00059	00091			
RQRTN	00283	00252					
SAVGO	00264	00265					
SLOOP	00179	00195					
SVBAD	00214	00173	00207				
SVDCI	00261	00011	00029	00162	00201	00203	00250
SVSPR	00215	00175	00209				
SVUTS	00213	00171	00205				
SYLBL	00160	00051					
SYNTS	00277	00073					
SYSBF	00272	00087					
SYSCD	00281	00057					

SYSSC	00275	00028	00072	00085		
SYTRK	00158	00166	00192			
TRCNT	00263	00027	00167	00191	00193	00254
UDNTS	00276	00070				
UPAST	00104	00042				
XIRT	00274	00253				
XPARM	00244	00231				
XSYLB	00102	00022	00092			

PAGE 0001

0001

ASMB,L,X,C,N,R,B

DISC PARITY PROCESSOR

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      DISC PARITY PROCESSOR
0002 00000      NAM $EX20,1
0003          FNT $EX20
0004          EXT $DISC,$SYIO,$WAIT,$ABRT
0005          EXT $BUF,$B3,$B4,$B5,$B64,$B65,$B66
0006          SUP
0007*
0008*
0009 00000 060127 $EX20 LDA RONBF+1    GET BAD TRACK#
0010 00001 072164R      STA BTRAK
0011 00002 072166R      STA ISSTR
0012 00003 001727      ALF,ALF
0013 00004 016414R      JSB CNDEC      CONVERT TO ASCII FOR MESSG
0014 00005 072211R      STA PELOC+7
0015 00006 060001      LDA B
0016 00007 010074      AND B377
0017 00010 032173R      IOR UPEQL
0018 00011 072210R      STA PELOC+6
0019 00012 060126      LDA RONBF      GET BAD TRACK SUBCHNL
0020 00013 070161      STA CUDSC      AND SET AS CURRENT
0021 00014 016414R      JSB CNDEC      CONVERT TO ASCII FOR MESSG
0022 00015 032173R      IOR UPEQL
0023 00016 072204R      STA PELOC+2
0024 00017 060130      LDA RONBF+2    GET BAD SECTOR#
0025 00020 016414R      JSB CNDEC      CONVERT TO ASCII FOR MESSG
0026 00021 001727      ALF,ALF
0027 00022 072217R      STA PELOC+13
0028 00023 010074      AND B377
0029 00024 072165R      STA SCNTR
0030 00025 060001      LDA B
0031 00026 001727      ALF,ALF
0032 00027 010075      AND B1774
0033 00030 032165R      IOR SCNTR
0034 00031 072216R      STA PELOC+12
0035*
0036* RESOLVE ADDRESS OF $BUF
0037*
0038 00032 062352R      LDA DEFBF
0039 00033 002001      RSS
0040 00034 160000      LDA 0,I
0041 00035 001275      RAL,CLE,SLA,ERA
0042 00036 026034R      JMP *-2
0043 00037 072352R      STA DEFBF      ADDRESS OF $BUF

0045 00040 062220R      LDA PEMSG
0046 00041 064061      LDB ..+6
0047 00042 016353R      JSB ERRDG      PRINT PARITY ERROR MESSG
0048 00043 062202R      LDA PELOC
0049 00044 066170R      LDB DM25
0050 00045 016353R      JSB ERRDG      PRINT PARITY TRK#, SCTR#, SUBCHN
0051 00046 062174R      LDA ASCN
0052 00047 072233R      STA ONOFF+4
0053 00050 062227R      LDA ONOFF
0054 00051 066167R      LDB DM38
0055 00052 016353R      JSB ERRDG      PRINT TURN ON ETC.
0056 00053 102011      HLT 11B      WAIT FOR OPERATOR

```

```

0057*
0058 00054 070200 STA DISCL
0059 00055 006404 CLB,INB
0060 00056 016371R JSB SBFIO READ USER LABEL SECTOR
0061 00057 062176R LDA ASCSY *
0062 00060 052006X CPA $B3 *
0063 00061 066007X LDB $B4 * IS IT
0064 00062 056177R CPB ASCSY+1 * A
0065 00063 062010X LDA $B5 * SYSTEM DISC?
0066 00064 052200R CPA ASCSY+2 *
0067 00065 006405 CLB,INB,RSS -YES
0068 00066 026072R JMP NOTSY -NO
0069 00067 062011X LDA $B64
0070 00070 070200 STA DISCL
0071 00071 016371R JSB SBFIO READ SYST. BFR SECTOR
0072 00072 064161 NOTSY LDB CUDSC
0073 00073 062011X LDA $B64
0074 00074 070157 STA UDNTS
0075 00075 054155 CPB SYSSC CURRENT SYS. SUBCHNL?
0076 00076 070160 STA SYNTS -YES, UPDATE SYST. NEXT TRK/SECT
0077 00077 060154 LDA DISCO GET LAST USER AVAIL. TRK#
0078 00100 010074 AND B377
0079 00101 066013X LDB $B66
0080 00102 054000 CPB A NEXT SPARE TRK = LAST USER TRK?
0081 00103 026253R JMP NOSPR -YES, NO MORE AVAIL.
0082 00104 076371R STB SBFIO
0083 00105 044052 ADB .-1
0084 00106 076013X STB $B66 SET NEW NEXT AVAIL. SPARE TRK
0085 00107 066371R LDB SBFIO
0086 00110 005727 BLF,BLF ROTATE TRK# TO HI 8 BITS
0087 00111 076216R STB CBFR
0088 00112 036012X ISZ $B65 INCREMENT BAD TRACK COUNTER
0089 00113 060200 LDA DISCL
0090 00114 064055 LDB .+2
0091 00115 016371R JSB SBFIO
0092 00116 064313 LDB MSECT
0093 00117 076165R STB SCNTR INITIALIZE SECTOR COUNTER
0094*
0095 00120 062164R STAGN LDA BTRAK
0096 00121 006404 CLB,INB
0097 00122 016371R JSB SBFIO READ SECTOR OF BAD TRACK
0098 00123 062216R LDA CBFR
0099 00124 016371R JSB SBFIO WRITE SECTOR TO ALTERNATE TRK
0100 00125 064116 LDB SECTR
0101 00126 056171R CPB D115 ISS DISC?
0102 00127 026137R JMP NOFLG -YES, DON'T FLAG DEFECTIVE YET
0103 00130 062164R LDA BTRAK
0104 00131 070166 STA PARAM
0105 00132 062201R LDA DFCBF
0106 00133 070167 STA PARAM+1
0107 00134 002404 CLA,INA
0108 00135 066172R LDB CONWD
0109 00136 016403R JSB DSCIO FLAG SECTOR DEFECTIVE
0110 00137 036216R NOFLG ISZ CBFR INCR. ALT. TRK/SECT
0111 00140 036164R ISZ BTRAK INCR. BAD TRK/SECT
0112 00141 036165R ISZ SCNTR INCR. SECTOR COUNTER

```


0113	00142	026120R	JMP	STAGN	GO DO NEXT SECTOR
0114*					
0115	00143	056171R	CPB	D115	ISS DISC?
0116	00144	026272R	JMP	ISS	-YES, GO FLAG IT NOW
0117*					
0118	00145	062175R	TRNOF	LDA	ASCFF
0119	00146	072233R		STA	ONOFF+4
0120	00147	062227R		LDA	ONOFF
0121	00150	066167R		LDB	DM38
0122	00151	016353R		JSB	ERRDG
0123	00152	102077		HLT	778
0124*					PRINT TURN OFF ETC. WAIT FOR OPERATOR
0125	00153	064245	EXIT	LDB	EXMOD
0126	00154	056163R		CPB	N20
0127	00155	007304		CMB	CCE,INB
0128	00156	074245		STB	EXMOD
0129	00157	070330		STA	XFLG
0130	00160	070327		STA	#BDTR
0131	00161	001500		ERA	
0132	00162	026004X		JMP	\$ABRT
0133*					SET BIT 15 FOR ADUMP
0134	00163	177754	N20	DEC	-20
0135	00164	000000	BTRAK	NOP	
0136	00165	000000	SCNTR	NOP	
0137	00166	000000	ISSTR	NOP	
0138*					
0139	00167	177732	DM38	DEC	-38
0140	00170	177747	DM25	DEC	-25
0141	00171	000163	D115	DEC	115
0142	00172	010403	CONWD	OCT	010403
0143	00173	036400	UPEQL	OCT	036400
0144*					
0145	00174	047040	ASCN	ASC	1,N
0146	00175	043106	ASCFF	ASC	1,FF
0147	00176	051531	ASCSY	ASC	3,SYSTEM
0148	00201	000216R	DFCBF	DEF	CBFR
0149*					
0150	00202	000203R	PELOC	DEF	++1
0151	00203	051503		ASC	11,SC , TRK , SCTR*
0152	00216	000000	CBFR	NOP	
0153	00217	000000		NOP	
0154	00220	000221R	PEMSG	DEF	++1
0155	00221	050101		ASC	6,PARITY ERROR
0156*					
0157	00227	000230R	ONOFF	DEF	++1
0158	00230	052125		ASC	19,TURN 0 DISC PROTECT OVERRIDE SWITCH
0159*					
0160	00253	062257R	NOSPR	LDA	SPMSG
0161	00254	064064		LDB	..+9
0162	00255	016353R		JSB	ERRDG
0163	00256	026153R		JMP	EXIT
0164*					
0165	00257	000260R	SPMSG	DEF	++1
0166	00260	051520		ASC	9,SPARE TRK OVERFLOW
0167	00271	177751	N23	DEC	-23
0168*					

0169	00272	060161	ISS	LDA CUDSC	
0170	00273	010056		AND .+3	* COMPUTE
0171	00274	070001		STA B	* PHYSICAL HEAD#
0172	00275	001222		RAL,RAL	* FROM
0173	00276	040001		ADA B	* SUBCHANNEL#
0174	00277	001727		ALF,ALF	
0175	00300	072164R		STA HD#	
0176	00301	060046		LDA .-5	SET HEAD COUNTER = -5
0177	00302	072414R		STA HCNTR	
0178	00303	062166R		LDA ISSTR	
0179	00304	006404		CLB,INB	
0180	00305	016371R		JSB SBFIO	
0181	00306	062271R	LOOPH	LDA N23	SET SECTOR COUNTER = -23
0182	00307	072165R		STA SCNTR	
0183	00310	066352R		LDB DEFBF	INITIALIZE ADDRESS BUFFER
0184	00311	076371R		STB ISSBF	GET ALTERNATE TRACK#
0185	00312	062216R		LDA CBFR	ISOLATE
0186	00313	010075		AND B1774	
0187	00314	032400R		IOR .128	SHIFT TO LO 8 BITS
0188	00315	001727		ALF,ALF	
0189	00316	066165R	LOOPS	LDB SCNTR	GET CURRENT SECTOR#
0190	00317	046346R		ADB .23	INCLUDE CURRENT HEAD#
0191	00320	046164R		ADB HD#	SET FLAG=BIT/TRACK# IN ADRS BFR
0192	00321	172371R		STA ISSBF,I	
0193	00322	036371R		ISZ ISSBF	SET HEAD/SECTOR IN ADRS BFR
0194	00323	176371R		STB ISSBF,I	
0195	00324	036371R		ISZ ISSBF	INCREMENT SECTOR COUNTER
0196	00325	036165R		ISZ SCNTR	GO SET NEXT SECTOR IN ADRS BFR
0197	00326	026316R		JMP LOOPS	
0198	00327	062166R		LDA ISSTR	SET BAD TRK ADDRS IN PARAM BFR
0199	00330	070166		STA PARAM	
0200	00331	042346R		ADA .23	UPDATE BAD TRK ADDRS
0201	00332	072166R		STA ISSTR	
0202	00333	062352R		LDA DEFBF	SET ADDRS BFR ADDRS IN PAR. BFR
0203	00334	070167		STA PARAM+1	
0204	00335	062347R		LDA D46	GET ISS WRITE ADDRESS COMMAND
0205	00336	066351R		LDB ISSCN	FLAG 1 PHYSICAL TRACK DEFECTIVE
0206	00337	016403R		JSB DSCIO	
0207	00340	062164R		LDA HD#	
0208	00341	042350R		ADA B400	UPDATE HEAD#
0209	00342	072164R		STA HD#	INCREMENT HEAD# COUNTER
0210	00343	036414R		ISZ HCNTR	GO PROCESS NEXT HEAD
0211	00344	026306R		JMP LOOPH	FINISHED - GO EXIT
0212	00345	026145R		JMP TRNOF	
0213*					
0214	00346	000027	.23	DEC 23	
0215	00347	000056	D46	DEC 46	
0216	00350	000400	B400	OCT 400	
0217	00351	070003	ISSCN	OCT 070003	
0218	00352	000005X	DEFBF	DEF \$BUF	
0219*					
0220	00353	000000	ERRDG	NOP	
0221	00354	072362R		STA MSGAD	
0222	00355	076363R		STB MSGLN	
0223	00356	034261		ISZ OPFLG	
0224	00357	016002X		JSB \$SYIO	

```

0225 00360 000002      DEC 2
0226 00361 000001      DEC 1
0227 00362 000000      MSGAD NOP
0228 00363 000000      MSGLN NOP
0229 00364 000366R      DEF **2
0230 00365 026003X      JMP $WAIT
0231 00366 002700      CLA,CCE
0232 00367 070261      STA OPFLG
0233 00370 126353R      JMP ERRDG,I
0234*
0235 00371 000000      SBFIO NOP
0236 00372 070166      STA PARAM
0237 00373 062352R      LDA DEFBF
0238 00374 070167      STA PARAM+1
0239 00375 062400R      LDA .128
0240 00376 016403R      JSB DSCIO
0241 00377 126371R      JMP SBFIO,I
0242*
0243 00400 000200      .128 DEC 128
0244 00401 000412R      XRTRN DEF RETRN
0245 00402 000166      XPARM DEF PARAM
0246*
0247 00403 000000      DSCIO NOP
0248 00404 070170      STA PARAM+2
0249 00405 062401R      LDA XRTRN
0250 00406 070330      STA XFLG
0251 00407 062402R      LDA XPARM
0252 00410 034162      ISZ CRFLG
0253 00411 016001X      JSB $DISC
0254 00412 064055      RETRN LDB .+2
0255 00413 126403R      JMP DSCIO,I
0256*
0257 00414 000000      CNDEC NOP
0258 00415 066446R      LDB A00
0259 00416 076443R      STB ASCI
0260 00417 076444R      STB ASCI+1
0261 00420 076445R      STB ASCI+2
0262 00421 066442R      LDB CNMBR
0263 00422 076403R      STB CNMLC
0264 00423 016447R      CNORG JSB DVUKN
0265 00424 146403R      ADB CNMLC,I
0266 00425 176403R      STB CNMLC,I
0267 00426 002003      SZA,RSS
0268 00427 026437R      JMP CNOUT
0269 00430 016447R      JSB DVUKN
0270 00431 005727      BLF,BLF
0271 00432 146403R      ADB CNMLC,I
0272 00433 176403R      STB CNMLC,I
0273 00434 036403R      ISZ CNMLC
0274 00435 002002      SZA
0275 00436 026423R      JMP CNORG
0276 00437 062443R      CNOUT LDA CNMBR+1
0277 00440 066444R      LDB CNMBR+2
0278 00441 126414R      JMP CNDEC,I
0279*
0280 00442 000443R      CNMBR DEF **1

```

SET FLAG TO ALLOW PARITY RETURN

DIVIDE BY 10

DIVIDE BY 10

```

0281 00443 000000  ASCI  BSS 3
0282 00403          CNMLC EQU DSCIO
0283 00446 030060  A00   ASC 1,00
0284*
0285 00447 000000  DVUKN NOP
0286 00450 006400          CLR
0287 00451 076353R          STB DVTMP
0288 00452 070001  DVU00 STA B
0289 00453 040041  DVU01 ADA ..-10
0290 00454 036353R          ISZ DVTMP
0291 00455 002021          SSA,RSS
0292 00456 026452R          JMP DVU00
0293 00457 006020          SSB
0294 00460 026453R          JMP DVU01
0295 00461 064041          LDB ..-10
0296 00462 007004          CMB,INB
0297 00463 044000          ADB A
0298 00464 062353R          LDA DVTMP
0299 00465 040052          ADA ..-1
0300 00466 126447R          JMP DVUKN,I
0301*
0302 00353          DVTMP EQU ERRDG
0303 00164          HD#   EQU BTRAK
0304 00414          HCNTR EQU CNDEC
0305 00371          ISSBF EQU SBFIO
0306*
0307 00000          A     EQU 0
0308 00001          B     EQU 1
0309*
0310*
0311 00053          .     EQU 53B
0312 00053          ..    EQU .
0313 00074          B377 EQU .+17
0314 00075          B1774 EQU .+18
0315*
0316 00100          #     EQU 100B
0317 00116          SECTR EQU #+14
0318 00126          RONBF EQU #+22
0319 00154          DISCO EQU #+44
0320 00155          SYSSC EQU #+45
0321 00157          UDNTS EQU #+47
0322 00160          SYNTS EQU #+48
0323 00161          CUDSC EQU #+49
0324 00162          CRFLG EQU #+50
0325 00166          PARAM EQU #+54
0326 00200          DISCL EQU #+64
0327 00245          EXMOD EQU #+101
0328 00261          OPFLG EQU #+113
0329 00313          MSECT EQU #+139
0330 00327          #BDTR EQU #+151
0331 00330          XFLG  EQU #+152
0332*
0333*
0334                                END
** NO ERRORS*

```

CLEAR LOOP COUNTER

FLAG ALLOWS BIT15 OF # TO BE SET
DIVIDE BY SUCCESSIVE SUBTRACTIONDONE IF A IS NEG AND B IS POS
CLEAR B TO ALLOW EXIT
EXIT IF POS
ORIGINAL # TO CONVERT WAS NEG

REMAINDER TO B

QUOTIENT TO A

#BDTR	00330/02	00130/02						
\$ABRT	00004/02	00132/02						
\$B3	00005/02	00062/02						
\$B4	00005/02	00063/02						
\$B5	00005/02	00065/02						
\$B64	00005/02	00069/02	00073/02					
\$B65	00005/02	00088/02						
\$B66	00005/02	00079/02	00084/02					
\$BUF	00005/02	00218/02						
\$DISC	00004/02	00253/02						
\$EX20	00009/02	00003/02						
\$SYIO	00004/02	00224/02						
\$WAIT	00004/02	00230/02						
.	00311/02	00083/02	00090/02	00170/02	00176/02	00254/02	00312/02	
	00313/02	00314/02						
..	00312/02	00046/02	00161/02	00289/02	00295/02	00299/02		
.128	00243/02	00187/02	00239/02					
.23	00214/02	00190/02	00200/02					
*	00316/02	00317/02	00318/02	00319/02	00320/02	00321/02	00322/02	
	00323/02	00324/02	00325/02	00326/02	00327/02	00328/02	00329/02	
	00330/02	00331/02						
A	00307/02	00080/02	00297/02					
AO0	00263/02	00258/02						
ASCFF	00146/02	00118/02						
ASCI	00281/02	00259/02	00260/02	00261/02				
ASCN	00145/02	00051/02						
ASCSY	00147/02	00061/02	00064/02	00066/02				
B	00308/02	00015/02	00030/02	00171/02	00173/02	00288/02		
B1774	00314/02	00032/02	00186/02					

B377 00313/02 00016/02 00028/02 00078/02
B400 00216/02 00208/02
BTRAK 00135/02 00010/02 00095/02 00103/02 00111/02 00303/02
CBFR 00152/02 00087/02 00098/02 00110/02 00148/02 00185/02
CNDEC 00257/02 00013/02 00021/02 00025/02 00278/02 00304/02
CNMBR 00280/02 00262/02 00276/02 00277/02
CNMLC 00282/02 00263/02 00265/02 00266/02 00271/02 00272/02 00273/02
CNORG 00264/02 00275/02
CNOUT 00276/02 00268/02
CONWD 00142/02 00108/02
CRFLG 00324/02 00252/02
CUDSC 00323/02 00020/02 00072/02 00169/02
D115 00141/02 00101/02 00115/02
D46 00215/02 00204/02
DEFBF 00218/02 00038/02 00043/02 00183/02 00202/02 00237/02
DFCBF 00148/02 00105/02
DISCL 00326/02 00058/02 00070/02 00089/02
DISCO 00319/02 00077/02
DN25 00140/02 00049/02
DN38 00139/02 00054/02 00121/02
DSCIO 00247/02 00109/02 00206/02 00240/02 00255/02 00282/02
DVTMP 00302/02 00287/02 00290/02 00298/02
DVU00 00288/02 00292/02
DVU01 00289/02 00294/02
DVUKN 00285/02 00264/02 00269/02 00300/02
ERRDG 00220/02 00047/02 00050/02 00055/02 00122/02 00162/02 00233/02
00302/02
EXIT 00125/02 00163/02
EXMOD 00327/02 00125/02 00128/02

HCNTR 00304/02 00177/02 00210/02
HD# 00303/02 00175/02 00191/02 00207/02 00209/02
ISS 00169/02 00116/02
ISSBF 00305/02 00184/02 00192/02 00193/02 00194/02 00195/02
ISSCN 00217/02 00205/02
ISSTR 00137/02 00011/02 00178/02 00198/02 00201/02
LOOPH 00181/02 00211/02
LOOPS 00189/02 00197/02
MSECT 00329/02 00092/02
MSGAD 00227/02 00221/02
MSGLN 00228/02 00222/02
N20 00134/02 00126/02
N23 00167/02 00181/02
NOFLG 00110/02 00102/02
NOSPR 00160/02 00081/02
NOTSY 00072/02 00068/02
ONOFF 00157/02 00052/02 00053/02 00119/02 00120/02
OPFLG 00328/02 00223/02 00232/02
PARAM 00325/02 00104/02 00106/02 00199/02 00203/02 00236/02 00238/02
00245/02 00248/02
PELOC 00150/02 00014/02 00018/02 00023/02 00027/02 00034/02 00048/02
PEMSG 00154/02 00045/02
RETRN 00254/02 00244/02
RONBF 00318/02 00009/02 00019/02 00024/02
SBFIO 00235/02 00060/02 00071/02 00082/02 00085/02 00091/02 00097/02
00099/02 00180/02 00241/02 00305/02
SCNTR 00136/02 00029/02 00033/02 00093/02 00112/02 00182/02 00189/02
00196/02
SECTR 00317/02 00100/02

SPMSG 00165/02 00160/02
STAGN 00095/02 00113/02
SYNTS 00322/02 00076/02
SYSSC 00320/02 00075/02
TRNOF 00118/02 00212/02
UDNTS 00321/02 00074/02
UPEQL 00143/02 00017/02 00022/02
XFLG 00331/02 00129/02 00250/02
XPARM 00245/02 00251/02
XRTRN 00244/02 00249/02

PAGE 0001

0001

ASMB,L,X,C,N,R,B

ASCII - CONVERT BIN TO ASCII OCT

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      ASCII - CONVERT BIN TO ASCII OCT
0002 000000          NAM ASCII,6
0003          ENT CNDEC,CNOCT
0004*
0005*      CONVERTS BINARY TO ASCII OCTAL OR DECIMAL.
0006*
0007*      CALLING SEQUENCE:
0008*
0009*          LDA <VALUE>
0010*          JSB CNDEC OR CNOCT
0011*
0012*      ON RETURN,
0013*          (A) CONTAINS LEAST SIGNIFICANT 2 DIGITS
0014*          (B) POINTS TO ADDRESS OF MOST SIGNIFICANT
0015*          DIGITS
0016*
0017 000000 0000000 CNDEC NOP          BINARY TO DECIMAL ASCII
0018 000001 066120R      LDB A00
0019 000002 076114R      STB ASCI
0020 000003 076115R      STB ASCI+1
0021 000004 076116R      STB ASCI+2
0022 000005 066113R      LDB CNMBR
0023 000006 076117R      STB CNMLC
0024 000007 016031R CNORG JSB DVUKN      DIVIDE BY 8 OR 10
0025 000010 146117R      ADB CNMLC,I
0026 000011 176117R      STB CNMLC,I
0027 000012 002003      SZA,RSS
0028 000013 026023R      JMP CNOCT
0029 000014 016031R      JSB DVUKN      DIVIDE BY 8 OR 10
0030 000015 005727      BLF,BLF
0031 000016 146117R      ADB CNMLC,I
0032 000017 176117R      STB CNMLC,I
0033 000020 036117R      ISZ CNMLC
0034 000021 002002      SZA
0035 000022 026007R      JMP CNORG
0036 000023 066116R CNOCT LDB CNMBR+3
0037 000024 062114R      LDA CNMBR+1
0038 000025 072116R      STA CNMBR+3
0039 000026 076114R      STB CNMBR+1
0040 000027 066113R      LDB CNMBR
0041 000030 126000R      JMP CNDEC,1
0042*
0043 000031 000000 DVUKN NOP
0044 000032 006400      CLB          CLEAR LOOP COUNTER = QUOTIENT +
0045 000033 076121R      STB DVTMP          FLAG ALLOW BIT15 OF # TO BE SET
0046 000034 070001 DVU00 STA B          DIVIDE BY SUCCESSIVE SUBTRACTION
0047 000035 040041 DVU01 ADA CNDIV
0048 000036 036121R      ISZ DVTMP
0049 000037 002021      SSA,RSS          DONE IF A IS NEG AND B IS POS
0050 000040 026034R      JMP DVU00      CLEAR B TO ALLOW EXIT
0051 000041 006020      SSB          EXIT IF POS
0052 000042 026035R      JMP DVU01      ORIGINAL # TO CONVERT WAS NEG
0053 000043 064041      LDB CNDIV      DONE
0054 000044 007004      CMB,INB
0055 000045 044000      ADB A          REMAINDER TO B
0056 000046 062121R      LDA DVTMP

```

```

0057 00047 040052      ADA  ..-1      QUOTIENT TO A
0058 00050 126031R     JMP  DVUKN,I     EXIT
0059*
0060*
0061 00051 000000      CNOCT  NOP
0062 00052 006400      CLB
0063 00053 016077R     JSB  ..RRL
0064 00054 177762      DEC  -14
0065 00055 016067R     JSB  OCT
0066 00056 072114R     STA  CNMBR+1
0067 00057 002400      CLA
0068 00060 016067R     JSB  OCT
0069 00061 072115R     STA  CNMBR+2
0070 00062 002400      CLA
0071 00063 016067R     JSB  OCT
0072 00064 072116R     STA  CNMBR+3
0073 00065 066113R     LDB  CNMBR
0074 00066 126051R     JMP  CNOCT,I
0075*
0076 00067 000000      OCT   NOP
0077 00070 016077R     JSB  ..RRL
0078 00071 177775      DEC  -3
0079 00072 001722      ALF,RAL
0080 00073 016077R     JSB  ..RRL
0081 00074 177775      DEC  -3
0082 00075 032120R     IOR  A00
0083 00076 126067R     JMP  OCT,I
0084*
0085 00077 000000      ..RRL  NOP
0086 00100 072000R     STA  CNDEC
0087 00101 162077R     LDA  ..RRL,I
0088 00102 072121R     STA  DVTMP
0089 00103 062000R     LDA  CNDEC
0090 00104 036077R     ISZ  ..RRL
0091 00105 000066      RLOOP  CLE,ELA
0092 00106 005600      ELB
0093 00107 001326      RAR,ELA
0094 00110 036121R     ISZ  DVTMP
0095 00111 026105R     JMP  RLOOP
0096 00112 126077R     JMP  ..RRL,I
0097*
0098*
0099 00113 000114R     CNMBR  DEF  ++1
0100 00114 000000      ASCI   BSS  3
0101 00117 000000      CNMLC  NOP
0102 00120 030060      A00    ASC  1,00
0103*
0104 00121 000000      DVTMP  BSS  1
0105*
0106 00000      A      EQU  0
0107 00001      B      EQU  1
0108 00053      ..     EQU  530
0109 00041      CNDIV  EQU  ..-10
0110      END

```

*** NO ERRORS*

..	00108	00057	00109				
..RRL	00085	00063	00077	00080	00087	00090	00096
A	00106	00055					
A00	00102	00018	00082				
ASCII	00100	00019	00020	00021			
B	00107	00046					
CNDEC	00017	00003	00041	00086	00089		
CNDIV	00109	00047	00053				
CNMBR	00099	00022	00036	00037	00038	00039	00040
	00066	00069	00072	00073			
CNMLC	00101	00023	00025	00026	00031	00032	00033
CNOCT	00061	00003	00074				
CNORG	00024	00035					
CNOUT	00036	00028					
DVTMP	00104	00045	00048	00056	00088	00094	
DVU00	00046	00050					
DVU01	00047	00052					
DVUKN	00043	00024	00029	00058			
OCT	00076	00065	00068	00071	00083		
RLOOP	00091	00095					

PAGE 0001

0001

ASMB,L,X,C,N,R,B

SADDR--CHECKS ADDRESS LIMITS

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      $ADDR--CHECKS ADDRESS LIMITS
0002 00000          NAM $ADDR,6
0003          ENT $ADDR
0004          EXT $RGER
0005*
0006*          $ADDR ROUTINE CHECKS IF BUFFER ADDRESS IS
0007*          WITHIN USER PROGRAM AREA LIMITS
0008*
0009 00000 000000 $ADDR NOP
0010 00001 003000      CMA
0011 00002 070001      STA B
0012 00003 040254      ADA UMFWA
0013 00004 002021      SSA,RSS
0014 00005 026012R     JMP RGER
0015 00006 044100      ADB UMLWA
0016 00007 006020      SSB
0017 00010 026012R     JMP RGER
0018 00011 126000R     JMP $ADDR,I
0019 00012 002400      RGER CLA
0020 00013 070245      STA EXMOD
0021 00014 026001X     JMP $RGER
0022 00000          A      EQU 0
0023 00001          B      EQU 1
0024 00100          .      EQU 100B
0025 00100          UMLWA EQU .+0
0026 00245          EXMOD EQU .+101
0027 00254          UMFWA EQU .+108
0028          END
** NO ERRORS*

```

SADDR	00009	00003	00018	
SRQER	00004	00021		
.	00024	00025	00026	00027
PA	00022			
B	00023	00011		
EXMOD	00026	00020		
RQER	00019	00014	00017	
UMFWA	00027	00012		
UMLWA	00025	00015		

PAGE 0001

0001

ASMB,L,X,C,N,R,B

SSRCH - SEARCH SYSTEM OR USER DI

** NO ERRORS*


```

0001          ASMB,L,X,C,N,R,B      SSRCH - SEARCH SYSTEM OR USER DI
0002 000000          NAM SSRCH,6
0003          ENT SSRCH
0004          EXT $DISC,$MOVE
0005          EXT $BUF,$B3,$B4,$B5,$B64,$B125,$B127,$B128
0006*          SSRCH SEARCHES THE SYSTEM OR USER DIRECTORY FOR A SPECIFIED
0007* FILE
0008*
0009*          CALLING SEQUENCE:
0010*          LDA <0 FOR SYSTEM, NON-0 FOR USER DIRECTORY>
0011*          LDB <ADDRESS OF FILE NAME>
0012*          JSB SSRCH
0013*
0014*          RETURN:
0015*          (P+1) IF FOUND, ADDRESS IN (B)
0016*          (P+2) IF FILE NOT FOUND, A=0
0017*
0018 000000 000000  SSRCH NOP
0019 000001 070277          STA CRFLX      SAVE USER/SYSTEM REQ. FLAG
0020 000002 076425R        STB FNADR      SAVE FILE-NAME ADDRESS
0021 000003 076431R        STB SVFLG      SET SWAP FLAG NON-ZERO
0022*
0023* RESOLVE ADDRESS OF $BUF
0024*
0025 000004 062213R        LDA BUFX
0026 000005 002001          RSS
0027 000006 160000          LDA 0,I
0028 000007 001275          RAL,CLE,SLA,ERA
0029 000010 026006R        JMP *-2
0030 000011 072213R        STA BUFX      ADDRESS OF $BUF
0031 000012 042116R        ADA .128
0032 000013 072274R        STA $BFND    ADDRESS OF $BUF+128
0033 000014 040051          ADA N2
0034 000015 072162R        STA TBEND    ADDRESS OF $BUF+126

0036 000016 060161          LDA CUDSC
0037 000017 072430R        STA SAVSC      SAVE CURRENT USER SUBCHNL
0038 000020 062116R        LDA .128
0039 000021 072434R        STA WDCNT
0040 000022 002400          CLA
0041 000023 072426R        STA SRSC
0042*
0043 000024 066011X        LDB $B127    GET FILE TABLE VALIDITY CHAR
0044 000025 056077R        CPB TFLG      FILE TABLE
0045 000026 050327          CPA FLFLG      VALID?
0046 000027 026047R        JMP TBCLR      -NO
0047*
0048 000030 016370R        JSB BFSET      SET TEMPP = BUFX
0049 000031 016374R        JSB $CMPR      COMPARE TO FILE-NAME IN BUFFER
0050 000032 026163R        JMP FOUN1      -EQUAL- EXIT
0051 000033 002020          SSA            SYSTEM ENTRY?
0052 000034 006005  RENTR INB,RSS      -YES, BUMP BY 1
0053 000035 044056          ADB .3        -NO, BUMP BY 3
0054 000036 160001          LDA 0,I
0055 000037 002002          SZA            ANY MORE ENTRIES?
0056 000040 026372R        JMP BFSET+2    -YES

```

0057*					
0058	00041	072431R	STA	SVFLG	SET FLAG TO RESTORE TABLE
0059	00042	060115	LDA	SYSBF	
0060	00043	040075	ADA	.1774	
0061	00044	016370R	JSB	BFSET	SET TEMPP = BUFx
0062	00045	006500	CLB,CLE		SET TO WRITE TO SYSTEM DISC
0063	00046	016344R	JSB	DSCIO	SAVE \$BUF IN OVERLAY AREA
0064*					
0065	00047	050277	TBCLR	CPA CRFLX	REQ. FOR SYSTEM DRCTRY?
0066	00050	003401	CCA,RSS		-YES
0067	00051	060161	LDA	CUDSC	-NO
0068	00052	016241R	JSB	SRCH	SEARCH DIRECTORY
0069	00053	060277	LDA	CRFLX	
0070	00054	064331	LDB	SSFLG	
0071	00055	002002	SZA		REQUEST FOR SYST. DRCTRY?
0072	00056	056076R	CPB	ASCNO	SYSTEM SEARCH ALLOWED?
0073	00057	026112R	JMP	NOTFN	
0074	00060	006020	SSB		SEARCH ALL SUBCHNLS?
0075	00061	026100R	JMP	SSALL	-YES
0076	00062	004065	SSNXT	CLE,ERB	-NO, SEARCH SPECIFIED SUBCHNLS
0077	00063	006043	SEZ,SZB,RSS		ANY MORE TO CHECK?
0078	00064	026112R	JMP	NOTFN	-NO
0079	00065	076427R	STB	SRFLG	SAVE CURRENT SEARCH FLAG VALUE
0080	00066	062426R	LDA	SRSC	
0081	00067	002040	SEZ		SEARCH THIS SUBCHNL?
0082	00070	052430R	CPA	SAVSC	
0083	00071	002001	RSS		-NO, SKIP IT
0084	00072	016241R	JSB	SRCH	SEARCH DRCTRY FOR FILE-NAME
0085	00073	036426R	ISZ	SRSC	-NOT FOUND, INCR. TO NEXT SUBCH
0086	00074	066427R	LDB	SRFLG	GET SEARCH FLAG
0087	00075	026062R	JMP	SSNXT	GO CHECK IF MORE SUBCHNLS
0088*					
0089	00076	047117	ASCNO	ASC 1,NO	
0090	00077	022124	TFLG	ASC 1,\$T	
0091*					
0092	00100	060156	SSALL	LDA LSTSC	
0093	00101	003000	CMA		SET SUBCHNL COUNTER
0094	00102	072426R	STA	SRSC	
0095	00103	062426R	SSAL1	LDA SRSC	
0096	00104	003000	CMA		
0097	00105	052430R	CPA	SAVSC	IS THIS ORIGINAL SUBCHNL?
0098	00106	002001	RSS		-YES, ALREADY CHECKED IT
0099	00107	016241R	JSB	SRCH	SEARCH DRCTRY FOR FILE-NAME
0100	00110	036426R	ISZ	SRSC	-NOT FOUND, INCR. SUBCHNL CNTR
0101	00111	026103R	JMP	SSAL1	GO CHECK NEXT SUBCHNL
0102*					
0103	00112	036000R	NOTFN	ISZ \$SRCH	INCREMENT TO INDICATE NOT FOUND
0104	00113	016370R	JSB	BFSET	SET TEMPP = BUFx
0105	00114	062430R	LDA	SAVSC	RESTORE USER SUBCHNL
0106	00115	016275R	JSB	SETSC	IF IT CHANGED
0107	00116	000200	.128	DEC 128	
0108	00117	076424R	SWAP	STB ENTLN	SET NEW ENTRY LENGTH
0109	00120	046116R	ADB	.128	
0110	00121	076434R	STB	WDCNT	SET DISC INPUT WORD COUNT
0111	00122	006700	CLB,CCE		SET TO READ SYSTEM DISC
0112	00123	062424R	LDA	ENTLN	

0113	00124	056431R	CPB SVFLG	WAS TABLE SWAPPED TO DISC?
0114	00125	003005	CMA,INA,RSS	-YES
0115	00126	026135R	JMP TLOOP+1	-NO
0116*				
0117	00127	042213R	ADA BUFX	SET INPUT BUFFER ADDRESS
0118	00130	072433R	STA TEMPP	AND BUFFER POINTER
0119	00131	060115	LDA SYSBF	
0120	00132	040075	ADA .1774	
0121	00133	016344R	JSB DSCIO	READ IN SWAP TRK/SCTR
0122*				
0123	00134	076433R	TLOOP STB TEMPP	
0124	00135	016355R	JSB BUMP	BUMP TABLE POINTER
0125	00136	002020	SSA	SYSTEM ENTRY?
0126	00137	006005	INB,RSS	-YES, BUMP 1 MORE
0127	00140	044056	ADB .3	
0128	00141	076423R	STB TEMP	
0129	00142	007004	CMB,INB	
0130	00143	046162R	ADB TBEND	PAST END OF TABLE
0131	00144	006020	SSB	
0132	00145	026153R	JMP DONE1	YES (OVERFLOW)
0133	00146	066423R	LDB TEMP	
0134	00147	002400	CLA	
0135	00150	150001	CPA B,I	
0136	00151	026155R	JMP DONE	YES (0 FOUND)
0137	00152	026134R	JMP TLOOP	
0138*				
0139	00153	002400	DONE1 CLA	
0140	00154	172433R	STA TEMPP,I	
0141	00155	066077R	DONE LDB TFLG	
0142	00156	076011X	STB \$B127	SET FILE TABLE VALIDITY CHAR
0143	00157	034327	ISZ FLFLG	SET FILE TABLE VALIDITY FLAG
0144	00160	066213R	LDB BUFX	GET DRCTRY ENTRY ADDRESS
0145	00161	126000R	JMP \$SRCH,I	
0146*				
0147	00162	000000	TBEND NOP	ADDRESS OF \$BUF+126
0148*				
0149	00163	002024	FOUN1 SSA,INA	SYSTEM DRCTRY ENTRY?
0150	00164	026204R	JMP FOUNS	-YES
0151	00165	060277	LDA CRFLX	
0152	00166	002003	SZA,RSS	REQ. FOR SYSTEM DRCTRY?
0153	00167	026036R	JMP RENTR+1	-YES- DIDN'T FIND IT THERE
0154	00170	160001	LDA B,I	
0155	00171	070161	STA CUDSC	SET CURRENT USER SUBCHNL
0156	00172	006004	INB	
0157	00173	160001	LDA B,I	
0158	00174	070157	STA UDNTS	SET USER NEXT TRK/SCTR
0159	00175	006004	INB	
0160	00176	160001	LDA B,I	
0161	00177	070200	STA DISCL	SET USER LABEL TRK/SCTR
0162	00200	060074	LDA M377	
0163	00201	070163	STA LSTSK	
0164	00202	066433R	LDB TEMPP	GET FILE ENTRY ADDRESS
0165	00203	126000R	JMP \$SRCH,I	EXIT
0166*				
0167	00204	050277	FOUNS CPA CRFLX	REQ. FOR SYSTEM DRCTRY?
0168	00205	026202R	JMP *-3	-YES

0169	00206	025034R	JMP	RENTR	-NO, GO LOOK SOME MORE
0170*					
0171	00207	007004	FOUND	CMB, INB	
0172	00210	046433R	ADB	TEMPP	COMPUTE ENTRY LENGTH
0173	00211	062433R	LDA	TEMPP	
0174	00212	016002X	JSB	\$MOVE	MOVE ENTRY TO START OF \$BUF
0175	00213	000003X	BUF	DEF \$BUF	
0176	00214	016370R	JSB	BFSET	SET TEMPP = BUF
0177	00215	016355R	JSB	BUMP	BUMP TABLE POINTER
0178	00216	060277	LDA	CRFLX	
0179	00217	002003	SZA	RSS	REQ. FOR SYSTEM DRCTRY?
0180	00220	003401	CCA	RSS	-YES
0181	00221	060161	LDA	CUDSC	-NO
0182	00222	170001	STA	B, I	SET USER SUBCHNL (-1 = SYS.)
0183	00223	002020	SSA		REQ. FOR SYSTEM?
0184	00224	026233R	JMP	SYSTEM	-YES
0185	00225	006004	INB		
0186	00226	060157	LDA	UDNTS	
0187	00227	170001	STA	B, I	SET USER NEXT TRK/SECT
0188	00230	006004	INB		
0189	00231	060200	LDA	DISCL	
0190	00232	170001	STA	B, I	SET USER LABEL TRK/SECT
0191*					
0192	00233	006004	SYSTEM	INB	
0193	00234	002400	CLA		
0194	00235	170001	STA	B, I	
0195	00236	007004	CMB	INB	
0196	00237	046433R	ADB	TEMPP	
0197	00240	026117R	JMP	SWAP	GO COMPLETE TABLE
0198*					
0199*					
0200	00241	000000	SRCH	NOP	
0201	00242	016275R	JSB	SETSC	SET SUBCHNL
0202	00243	126241R	JMP	SRCH, I	-NOT READY = EXIT
0203	00244	016370R	SER05	JSB	BFSET
0204	00245	062432R	LDA	BUFPT	SET TEMPP = BUF
0205	00246	064277	LDB	CRFLX	GET DRCTRY TRK/SECT
0206	00247	016344R	JSB	DSCIO	
0207	00250	066433R	SER20	LDB	TEMPP
0208	00251	016374R	JSB	\$CMPR	READ DRCTRY SECT
0209	00252	026207R	JMP	FOUND	ENTRY EQUAL?
0210	00253	076433R	STB	TEMPP	-YES
0211	00254	007000	CMB		
0212	00255	046274R	ADB	\$BFND	
0213	00256	006320	CCE	SSB	
0214	00257	026266R	JMP	SER40	YES
0215	00260	162433R	LDA	TEMPP, I	CHECK IF AT END OF DIRECTORY
0216	00261	002003	SZA	RSS	
0217	00262	126241R	JMP	SRCH, I	
0218	00263	050052	CPA	N1	CHECK IF AT LAST ENTRY IN SECTOR
0219	00264	002301	CCE	RSS	YES
0220	00265	026250R	JMP	SER20	NO
0221	00266	036432R	SER40	ISZ	BUFPT
0222	00267	062432R	LDA	BUFPT	INCREMENT TO NEXT DIRECTORY SECT
0223	00270	010074	AND	M377	
0224	00271	050116	CPA	SECTR	END OF DIRECTORY?

0225	00272	126241R	JMP SRCH,I	
0226	00273	026244R	JMP SER05	GO TO READ IN NEXT DIRECTORY SEC
0227*				
0228	00274	000000	\$BFND NOP	ADDRESS OF \$BUF+128
0229*				
0230	00275	000000	SETSC NOP	
0231	00276	002020	SSA	REQ. FOR SYSTEM?
0232	00277	026331R	JMP SETSY	-YES
0233	00300	050161	CPA CUDSC	SAME SUBCHNL?
0234	00301	026327R	JMP STDIR	-YES
0235	00302	070161	STA CUDSC	SET CURRENT USER SUBCHNL
0236	00303	016370R	JSB BFSET	RESET BUFFER POINTER
0237	00304	074163	STB LSTSK	
0238	00305	062337R	LDA SSSKP	
0239	00306	070330	STA XFLG	SET XFLG FOR NOT READY RETURN
0240	00307	002700	CLA,CCE	
0241	00310	070200	STA DISCL	
0242	00311	016344R	JSB DSCIO	READ FROM USER DISC
0243	00312	066340R	LDB ASCSY	*
0244	00313	056004X	CPB \$B3	*
0245	00314	062005X	LDA \$B4	* IS IT
0246	00315	052341R	CPA ASCSY+1	* A
0247	00316	066006X	LDB \$B5	* SYSTEM DISC?
0248	00317	056342R	CPB ASCSY+2	*
0249	00320	006705	CLB,CCE,INB,RSS	-YES
0250	00321	026325R	JMP DCTY0	-NO
0251	00322	062007X	LDA \$B64	
0252	00323	070200	STA DISCL	SET SYST. BFR SECTOR
0253	00324	016344R	JSB DSCIO	READ USER LABEL SCTR
0254	00325	062007X	DCTY0 LDA \$B64	
0255	00326	070157	STA UDNTS	SET USER NEXT TRK/SCTR
0256	00327	060200	STDIR LDA DISCL	
0257	00330	002005	INA,RSS	
0258	00331	060114	SETSY LDA SYSDR	
0259	00332	072432R	STA BUFPT	SET DRCTRY START TRK/SCTR
0260	00333	036275R	ISZ SETSC	INCR. TO INDICATE SUBCHNL READY
0261	00334	006700	CLRXF CLB,CCE	
0262	00335	074330	STB XFLG	CLEAR NOT-READY RETURN FLAG
0263	00336	126275R	JMP SETSC,I	
0264*				
0265	00337	000334R	SSSKP DEF CLRXF	
0266*				
0267	00340	051531	ASCSY ASC 3,SYSTEM	
	00341	051524		
	00342	042515		
0268	00343	000432R	PARAX DEF PARAM	
0269*				
0270	00344	000000	DSCIO NOP	
0271	00345	072432R	STA BUFPT	SET DISC TRK/SCTR
0272	00346	074162	STB CRFLG	
0273	00347	006445	CLB,SEZ,INB,RSS	
0274	00350	006004	INB	
0275	00351	062343R	LDA PARAX	ADDRESS OF DISC REQUEST PARAMETE
0276	00352	016001X	JSB \$DISC	READ IN ONE SECTOR OF DIRECTORY
0277	00353	016370R	JSB BFSET	SET TEMPP = BUFEX
0278	00354	126344R	JMP DSCIO,I	

0279*					
0280	00355	000000	BUMP	NOP	
0281	00356	066433R		LDB TEMPP	GET POINTER TO CURRENT ENTRY
0282	00357	044055		ADB .2	
0283	00360	160001		LDA B,I	
0284	00361	010073		AND .177	GET FILE TYPE
0285	00362	040045		ADA N6	
0286	00363	044056		ADB .3	
0287	00364	002020		SSA	11 WORD ENTRY?
0288	00365	044061		ADB .6	-YES
0289	00366	160001		LDA B,I	
0290	00367	126355R		JMP BUMP,I	
0291*					
0292	00370	000000	BFSET	NOP	
0293	00371	066213R		LDB BUFX	
0294	00372	076433R		STB TEMPP	
0295	00373	126370R		JMP BFSET,I	
0296*					
0297	00374	000000	\$CMPR	NOP	B CONTAINS REQ. FILE-NAME ADDRESS
0298	00375	062425R		LDA FNADR	GET REQ. FILE-NAME ADDRESS
0299	00376	072422R		STA CMTMP	SET DRCTRY ENTRY ADDRESS
0300	00377	016413R		JSB CMBMP	
0301	00400	016413R		JSB CMBMP	
0302	00401	162422R		LDA CMTMP,I	
0303	00402	010075		AND .1774	
0304	00403	072422R		STA CMTMP	
0305	00404	160001		LDA B,I	
0306	00405	010075		AND .1774	
0307	00406	052422R		CPA CMTMP	
0308	00407	002001		RSS	
0309	00410	036374R	CMISZ	ISZ \$CMPR	P+2 EXIT: NOT EQUAL
0310	00411	016355R		JSB BUMP	BUMP BUFFER POINTER
0311	00412	126374R		JMP \$CMPR,I	
0312*					
0313	00413	000000	CMBMP	NOP	
0314	00414	160001		LDA B,I	
0315	00415	152422R		CPA CMTMP,I	
0316	00416	006005		INB,RSS	
0317	00417	026410R		JMP CMISZ	
0318	00420	036422R		ISZ CMTMP	
0319	00421	126413R		JMP CMBMP,I	
0320*					
0321	00000		A	EQU 0	
0322	00001		B	EQU 1	
0323	00053		..	EQU 53B	
0324	00045		N6	EQU ..-6	
0325	00051		N2	EQU ..-2	
0326	00052		N1	EQU ..-1	
0327	00055		.2	EQU ..+2	
0328	00056		.3	EQU ..+3	
0329	00061		.6	EQU ..+6	
0330	00073		.177	EQU ..+16	
0331	00074		M377	EQU ..+17	
0332	00075		.1774	EQU ..+18	
0333*					
0334	00100		.	EQU 100B	

0335	00114		SYSOR EQU	+.12
0336	00115		SYSBF EQU	+.13
0337	00116		SECTR EQU	+.14
0338	00156		LSTSC EQU	+.46
0339	00157		UDNTS EQU	+.47
0340	00161		CUDSC EQU	+.49
0341	00162		CRFLG EQU	+.50
0342	00163		LSTSK EQU	+.51
0343	00200		DISCL EQU	+.64
0344	00277		CRFLX EQU	+.127
0345	00327		FLFLG EQU	+.151
0346	00330		XFLG EQU	+.152
0347	00331		SSFLG EQU	+.153
0348*				
0349	00422	000000	RONBF BSS	11
0350	00422		CMTMP EQU	RONBF
0351	00423		TEMP EQU	RONBF+1
0352	00424		ENTLN EQU	RONBF+2
0353	00425		FNADR EQU	RONBF+3
0354	00426		SRSC EQU	RONBF+4
0355	00427		SRFLG EQU	RONBF+5
0356	00430		SAVSC EQU	RONBF+6
0357	00431		SVFLG EQU	RONBF+7
0358	00432		PARAM EQU	RONBF+8
0359	00432		BUFPT EQU	PARAM
0360	00433		TEMPP EQU	PARAM+1
0361	00434		WDCNT EQU	PARAM+2
0362*				
0363			END	
** NO ERRORS*				

*SB125	00005						
SB127	00005	00043	00142				
*SB128	00005						
SB3	00005	00244					
SB4	00005	00245					
SB5	00005	00247					
SB64	00005	00251	00254				
SBFND	00228	00032	00212				
SBUF	00005	00175					
SCMPR	00297	00049	00208	00309	00311		
SDISC	00004	00276					
SMOVE	00004	00174					
SSRCH	00018	00003	00103	00145	00165		
.	00334	00335	00336	00337	00338	00339	00340
	00341	00342	00343	00344	00345	00346	00347
..	00323	00324	00325	00326	00327	00328	00329
	00330	00331	00332				
.128	00107	00031	00038	00109			
.177	00330	00284					
.1774	00332	00060	00120	00303	00306		
.2	00327	00282					
.3	00328	00053	00127	00286			
.6	00329	00288					
*A	00321						
ASCNO	00089	00072					
ASCSY	00267	00243	00246	00248			
B	00322	00054	00135	00154	00157	00160	00182
	00187	00190	00194	00283	00289	00305	00314
BFSET	00292	00048	00056	00061	00104	00176	00203
	00236	00277	00295				

BUFPT	00359	00204	00221	00222	00259	00271	
BUFX	00175	00025	00030	00117	00144	00293	
BUMP	00280	00124	00177	00290	00310		
CLRXF	00261	00265					
CMBMP	00313	00300	00301	00319			
CMISZ	00309	00317					
CMTMP	00350	00299	00302	00304	00307	00315	00318
CRFLG	00341	00272					
CRFLX	00344 00205	00019	00065	00069	00151	00167	00178
CUDSC	00340	00036	00067	00155	00181	00233	00235
DCTY0	00254	00250					
DISCL	00343	00161	00189	00241	00252	00256	
DONE	00141	00136					
DONE1	00139	00132					
DSCIO	00270	00063	00121	00206	00242	00253	00278
ENTLN	00352	00108	00112				
FLFLG	00345	00045	00143				
FNADR	00353	00020	00298				
FOUN1	00149	00050					
FOUND	00171	00209					
FOUNS	00167	00150					
LSTSC	00338	00092					
LSTSK	00342	00163	00237				
M377	00331	00162	00223				
N1	00326	00218					
N2	00326	00033					
N6	00324	00285					

NOTFN	00103	00073	00078				
PARAM	00358	00268	00359	00360	00361		
PARAX	00268	00275					
RENTN	00052	00153	00169				
RONBF	00349 00356	00350 00357	00351 00358	00352	00353	00354	00355
SAVSC	00356	00037	00082	00097	00105		
SECTR	00337	00224					
SER05	00203	00226					
SER20	00207	00220					
SER40	00221	00214					
SETSC	00230	00106	00201	00260	00263		
SETSY	00258	00232					
SRCH	00200	00068	00084	00099	00202	00217	00225
SRFLG	00355	00079	00086				
SRSC	00354	00041	00080	00085	00094	00095	00100
SSAL1	00095	00101					
SSALL	00092	00075					
SSFLG	00347	00070					
SSNXT	00076	00087					
SSSKP	00265	00238					
STDIR	00256	00234					
SVFLG	00357	00021	00058	00113			
SWAP	00108	00197					
SYSBF	00336	00059	00119				
SYSOR	00335	00258					
SYSTEM	00192	00184					
TBCLR	00065	00046					
TBEND	00147	00034	00130				

TEMP	00351	00128	00133				
TEMPP	00360 00196	00118 00207	00123 00210	00140 00215	00164 00281	00172 00294	00173
TFLG	00090	00044	00141				
TLOOP	00123	00115	00137				
UDNTS	00339	00158	00186	00255			
WDCNT	00361	00039	00110				
XFLG	00346	00239	00262				

PAGE 0001

0001

ASMB,L,X,C,N,R,B

SLBL

** NO ERRORS*

```

0001          ASMB,L,X,C,N,R,B      $LBL
0002 00000      NAM $LBL,6
0003          ENT LBLIO,ISLBL,LBLMV,CHSUM,MESSE
0004          EXT $SYIO,$DISC,$WAIT,$MOVE
0005          EXT $BUF,$B31,$B3
0006*
0007*      SERVICE ROUTINES FOR LABEL CHECKING -
0008*
0009*      CALLED BY $EX17 AND $EX19
0010*
0011*
0012*
0013* CHSUM COMPUTES THE CHECKSUM OF THE LABEL IN $BUF.
0014*
0015*      ENTRY: REGISTER CONTENTS MEANINGLESS
0016*
0017*      EXIT:  COMPUTED CHECKSUM IN <A>
0018*
0019 00000 000000 CHSUM NOP
0020 00001 062015R      LDA N31
0021 00002 072022R      STA CNTR
0022 00003 062060R      LDA DEFBF      RESOLVE
0023 00004 016100R      JSB RBA          ADDRESS
0024 00005 072060R      STA DEFBF      OF $BUF
0025 00006 003400      CCA
0026 00007 066060R      LDB DEFBF
0027 00010 120001      XOR B,I
0028 00011 006004      INB
0029 00012 036022R      ISZ CNTR
0030 00013 026010R      JMP *-3
0031 00014 126000R      JMP CHSUM,I
0032*
0033 00015 177741 N31 DEC -31
0034*
0035* LBLMV MOVES A 3-WORD LABEL.
0036*
0037*      ENTRY: SOURCE ADDRESS IN <A>, DEST ADDRESS IN <B>
0038*
0039*      EXIT:  REGISTER CONTENTS MEANINGLESS
0040*
0041 00016 000000 LBLMV NOP
0042 00017 076022R      STB DSTAD
0043 00020 064050      LDB , -3
0044 00021 016004X      JSB $MOVE
0045 00022 000000 DSTAD NOP
0046 00023 126016R      JMP LBLMV,I
0047*
0048* ISLBL CHECKS TO SEE WHETHER THE CURRENT DISC
0049* IS LABELED.
0050*      ADDITIONALLY, IT MOVES THE LABEL TO THE ADDRESS IN <A>
0051*
0052*      ENTRY: LABEL DEST. ADDRESS IN <A>
0053*      EXIT: REGISTER CONTENTS MEANINGLESS
0054*
0055 00024 000000 ISLBL NOP
0056 00025 064000      LDB A

```

```

0057 00026 062041R LDA DFLBL
0058 00027 016100R JSB RBA RESOLVE ADDR OF $BUF+3
0059 00030 016016R JSB LBLMV MOVE LABEL TO APPROPRIATE MSG
0060 00031 062005X LDA $BUF
0061 00032 052042R CPA ASCLB LABEL CODE PRESENT?
0062 00033 002001 RSS -YES
0063 00034 126024R JMP ISLBL,I -NO, EXIT
0064 00035 016000R JSB CHSUM
0065 00036 052006X CPA $B31 CHECKSUM OK?
0066 00037 036024R ISZ ISLBL
0067 00040 126024R JMP ISLBL,I -NO, EXIT
0068*
0069 00041 000007X DFLBL DEF $B3
0070 00042 046102 ASCLB ASC 1,LB
0071*
0072* LBLIO READS OR WRITES THE LABEL SECTOR ON THE
0073* CURRENT USER DISC IN $BUF
0074*
0075* ENTRY: WORD COUNT IN <A>
0076* READ/WRITE IN <B> (1=READ, 2=WRITE)
0077*
0078 00043 000000 LBLIO NOP
0079 00044 070170 STA PARAM+2 SET WORD COUNT
0080 00045 076022R STB RDWRT SET IN/OUT WORD
0081 00046 064200 LDB DISCL
0082 00047 074166 STB PARAM
0083 00050 062060R LDA DEFBF
0084 00051 016100R JSB RBA RESOLVE ADDR OF $BUF
0085 00052 070167 STA PARAM+1
0086 00053 062061R LDA XPARAM
0087 00054 066022R LDB RDWRT
0088 00055 034162 ISZ CRFLG SET REQ FLAG= USER DISC
0089 00056 016002X JSB $DISC GO READ/WRITE LABEL SECTOR
0090 00057 126043R JMP LBLIO,I
0091*
0092 00060 000005X DEFBF DEF $BUF
0093 00061 000166 XPARAM DEF PARAM
0094*
0095*
0096* MESSG OUTPUTS A DIAGNOSTIC MESSAGE
0097* TO THE SYSTEM TELEPRINTER.
0098*
0099* ENTRY: MESSAGE ADDRESS IN <A>
0100* MESSAGE LENGTH IN <B> (NEG. CHARS.)
0101*
0102 00062 000000 MESSG NOP
0103 00063 072071R STA MSGAD SET MESSAGE ADDRESS
0104 00064 076072R STB MSGLN SET MESSAGE LENGTH
0105 00065 034261 ISZ OPFLG
0106 00066 016001X JSB $SYIO OUTPUT MESSAGE
0107 00067 000002 DEC 2
0108 00070 000001 OCT 1
0109 00071 000000 MSGAD NOP
0110 00072 000000 MSGLN NOP
0111 00073 000075R DEF **2
0112 00074 026003X JMP $WAIT

```

```

0113 00075 002400      CLA
0114 00076 070261      STA OPFLG
0115 00077 126062R     JMP MESSG,I
0116*
0117 00022              RDWRT EQU DSTAD
0118 00022              CNTR EQU DSTAD
0119*
0120*
0121* RBA RESOLVES THE ADDRESSES OF $BUF
0122*
0123*   ENTRY: DESIRED ADDRESS IN <A>
0124*
0125*   EXIT : 15-BIT ADDRESS IN <A>
0126*
0127 00100 000000 RBA  NOP
0128 00101 002001      RSS
0129 00102 160000      LDA 0,I
0130 00103 001275      RAL,CLE,SLA,ERA
0131 00104 026102R     JMP *-2
0132 00105 126100R     JMP RBA,I

```

0134*		
0135	00000	A EQU 0
0136	00001	B EQU 1
0137	00053	. EQU 53B
0138*		
0139	00100	* EQU 100B
0140	00155	SYSSC EQU *+45
0141	00162	CRFLG EQU *+50
0142	00166	PARAM EQU *+54
0143	00200	DISCL EQU *+64
0144	00261	OPFLG EQU *+113
0145*		
0146		END
** NO ERRORS*		

\$B3	00005	00069				
\$B31	00005	00065				
\$BUF	00005	00060	00092			
\$DISC	00004	00089				
\$MOVE	00004	00044				
\$SYIO	00004	00106				
\$WAIT	00004	00112				
.	00137	00043				
*	00139	00140	00141	00142	00143	00144
A	00135	00056				
ASCLB	00070	00061				
B	00136	00027				
CHSUM	00019	00003	00031	00064		
CNTR	00118	00021	00029			
CRFLG	00141	00088				
DEFBF	00092	00022	00024	00026	00083	
DFLBL	00069	00057				
DISCL	00143	00081				
DSTAD	00045	00042	00117	00118		
ISLBL	00055	00003	00063	00066	00067	
LBLIO	00078	00003	00090			
LBLMV	00041	00003	00046	00059		
MESSG	00102	00003	00115			
MSGAD	00109	00103				
MSGLN	00110	00104				
N31	00033	00020				
OPFLG	00144	00105	00114			
PARAM	00142	00079	00082	00085	00093	

RBA	00127	00023	00058	00084	00132
RDWRT	00117	00080	00087		
•SYSSC	00140				
XPARM	00093	00086			

PAGE 0001

0001

ASMB,L,R,X,C,N,B

** NO ERRORS*

```
0001          ASMB,L,R,X,C,N,B
0003 000000    NAM DUMRX,6
0004          ENT $LIBR,$LIBX
```

```
0006*          CALLING SEQUENCES: ENTRY          TERMINATION
0007*
0008*
0009*          PRIVILEGED :          JSB $LIBR          JSB $LIBX
0010*          NOP          DEF (PROGRAM ENTRY POINT)
0011*
0012*          RE-ENTRANT :          JSB $LIBR          JSB $LIBX
0013*          DEF TDB          DEF TDB
0014*          DEC 0 OR 1
0015*
0016*          BASIC ASSUMPTION : PRIVILEGED ROUTINES MAY NOT
0017*
0018*          CALL RE-ENTRANT ROUTINES
```

```
0020 00000 000000 $LIBR NOP
0021 00001 072054R STA TEMPA          SAVE A
0022 00002 162000R LDA $LIBR,I
0023 00003 036000R ISZ $LIBR          SET RETURN ADDRESS
0024 00004 002002R SZA          NOP (PRIV) OR DEF TDB (RE-ENT)
0025 00005 026010R JMP RENTR          RE-ENTRANT
0026 00006 036057R ISZ PRIV          ADD ONE TO PRIVILEGED FLAG
0027 00007 026023R JMP EXITR          EXIT
0028 00010 040055R RENTR ADA ..+2          A = DEF TDB+2 = RETURN ADDRESS
0029 00011 076055R STB TEMPB          SAVE B
0030 00012 005500R ERB
0031 00013 076056R STB TEMPE          SAVE E
0032 00014 066000R LDB $LIBR
0033 00015 044050R ADB ..-3          B = WORD BEFORE "JSB $LIBR"
0034*          = RETURN ADDRESS
0035 00016 164001R LDB 1,I          LOAD RETURN ADDRESS
0036 00017 174000R STB 0,I          AND STORE IN TDB+2
0037 00020 066056R LDB TEMPE
0038 00021 005600R ELB          RESTORE E
0039 00022 066055R LDB TEMPB          RESTORE B
0040 00023 062054R EXITR LDA TEMPA          RESTORE A
0041 00024 126000R JMP $LIBR,I          RETURN
```

```
0043 00025 000000 $LIBX NOP
0044 00026 072054R STA TEMPA          SAVE A
0045 00027 076055R STB TEMPB          SAVE B
0046 00030 005500R ERB
0047 00031 076056R STB TEMPE          SAVE E
0048 00032 162025R LDA $LIBX,I
0049 00033 066057R LDB PRIV          IF PRIV = 0?
0050 00034 006003R SZB,RSS
0051 00035 026042R JMP RENTX          THIS IS A RE-ENTRANT ROUTINE,
0052 00036 044052R ADB ..-1          ELSE PRIVILEGED
0053 00037 076057R STB PRIV          SET PRIV = PRIV - 1
0054 00040 160000R LDA 0,I          A = RETURN ADDRESS
```

```

0055 00041 026046R      JMP EXITX      EXIT
0056 00042 040055  RENTX ADA ..+2      A = DEF TDB+2
0057 00043 160000      LDA 0,I        A = ADDRESS IN TDB+2
0058 00044 036025R      ISZ $LIBX      $LIBX POINTS TO DEC 0 OR 1
0059 00045 142025R      ADA $LIBX,I    ADD 0 OR 1 TO RETURN ADDRESS
0060 00046 072025R  EXITX STA $LIBX
0061 00047 062054R      LDA TEMPA      RESTORE A
0062 00050 066056R      LDB TEMPE
0063 00051 005600      ELB            RESTORE E
0064 00052 066055R      LDB TEMPB      RESTORE B
0065 00053 126025R      JMP $LIBX,I    RETURN

```

```

0067 00054 000000  TEMPB NOP
0068 00055 000000  TEMPB NOP
0069 00056 000000  TEMPE NOP
0070 00057 000000  PRIV OCT 0      PRIV = 0 IF RE-ENTRANT, ELSE > 0
0071 00053        .. EQU 53B
0072              END

```

** NO ERRORS*

\$LIBR	00020	00004	00022	00023	00032	00041	
\$LIBX	00043	00004	00048	00058	00059	00060	00065
..	00071	00028	00033	00052	00056		
EXITR	00040	00027					
EXITX	00060	00055					
PRIV	00070	00026	00049	00053			
RENTX	00028	00025					
RENTX	00056	00051					
TEMPA	00067	00021	00040	00044	00061		
TEMPB	00068	00029	00039	00045	00064		
TEMPE	00069	00031	00037	00047	00062		

PAGE 0001

0001

** NO ERRORS*

ASMB,L,C,R,B

SPFAL - SUBROUTINE FOR POWER FAIL

```
0001          ASMB,L,C,R,B  $PFAL - SUBROUTINE FOR POWER FAIL
0002 00000          NAM $PFAL
0003          ENT $PFAL
0004 00000 000000 $PFAL NOP
0005 00001 102004  HLT 4
0006 00002 126000R JMP $PFAL,I
0007          END $PFAL
** NO ERRORS*
```


\$PFAL 00004

00003

00006

00007

PAGE 0001

0001

ASMB,L,R,C,B

\$SETP

** NO ERRORS*

```

0001          ASMB,L,R,C,B    $SETP
0002 00000          NAM $SETP
0003          ENT $SETP
0004*
0005* THIS PART OF CODE IS PULLED OUT FROM THE DISC MONITOR SO THAT
0006* THE MICROCODED COMMUNICATIONS LIBRARY ROUTINE #SETP MAY
0007* REPLACE THIS.
0008*
0009* IT SETS A COLUMN OF POINTERS TO THE ADDRESSES OF A SPECIFIC
0010* COLUMN IN A RECTANGULAR ARRAY.
0011*
0012* CALLING SEQUENCE: LDA < STARTING POINTER >
0013*                  LDB < STARTING ADDRESS OF ARRAY TO BE SET
0014*                  JSB $SETP
0015*                  DEF COUNT      NUMBER OF POINTERS TO SET
0016*                  (RETURN)
0017*
0018* RETURN:          A-REGISTER = 0
0019*                  B-REGISTER = B REGISTER + COUNT
0020*                  COUNT = UNCHANGED
0021*
0022*
0023 00000 000000 $SETP NOP
0024 00001 072017R STA REGA      SAVE A REGISTER TEMPORARILY
0025 00002 162000R LDA $SETP,I   GET COUNT ADDRESS
0026 00003 160000  LDA A,I       GET COUNT
0027 00004 003004  CMA,INA      MAKE IT A NEGATIVE COUNTER
0028 00005 072020R STA CNT
0029 00006 062017R LDA REGA      RESTORE A REGISTER
0030 00007 170001 SETP2 STA B,I
0031 00010 002004  INA          BUMP POINTERS
0032 00011 006004  INB
0033 00012 036020R ISZ CNT       ALL POINTERS SET?
0034 00013 026007R JMP SETP2    NO.
0035 00014 002400  CLA          YES. CLEAR A REG & RETURN.
0036 00015 036000R ISZ $SETP
0037 00016 126000R JMP $SETP,I
0038 00017 000000 REGA NOP
0039 00020 000000 CNT NOP
0040 00000  A EQU 0
0041 00001  B EQU 1
0042          END
** NO ERRORS*

```

\$SETP	00023	00003	00025	00036	00037
A	00040	00026			
B	00041	00030			
CNT	00039	00028	00033		
REGA	00038	00024	00029		
SETP2	00030	00034			